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Inspector of Mines.

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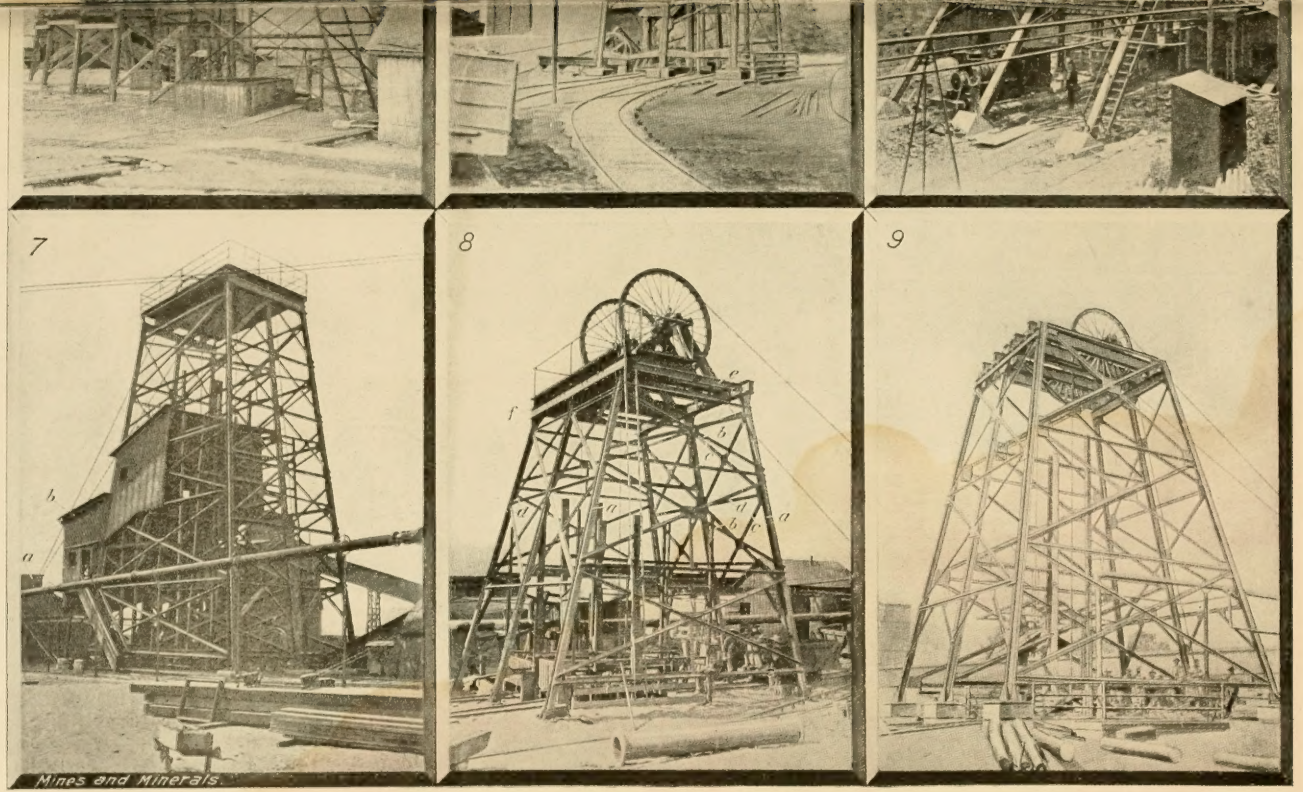

STEEL HEADFRAMES AT ANTHRACITE MINES.

1. No. 1 Shaft, Susquehanna Coal Co., Nanticoke, Pa. 2. Leggets Creek Shaft, Delaware & Hudson Canal Co., Scranton, Pa. 3. No 2 Shaft, Alden Coal Co., Alden Station, Pa. 4. No. 9 Shaft, Lehigh and Wilkes-Barre Coal Co., Sugar Notch, Pa. 5. Oakwood Shaft, Lehigh Valley Coal Co., Wilkes-Barre, Pa. 6. No. 4 Shaft, Susquehanna Coal Co., Newport Centre, Pa. 7. Prospect Shaft, Lehigh Valley Coal Co., Wilkes-Barre, Pa. 8. No. 1 Shaft, Alden Coal Co., Alden Station, Pa. 9. Henry Shaft, Lehigh Valley Coal Co., Wilkes-Barre, Pa.

REPORT

OF THE

BUREAU OF MINES

OF THE

Department of Internal Affairs of Pennsylvania.

1899.

WM. STANLEY RAY,
STATE PRINTER OF PENNSYLVANIA.
1900.

VIRTUE
LIBERTY AND
INDEPENDENCE

REPORT

OF THE

BUREAU OF MINES.

COMMUNICATION.

Department of Internal Affairs,
Harrisburg, May 1, 1900.

To His Excellency, William A. Stone, Governor of Pennsylvania:

Sir: In compliance with the requirements of the act of June 2, 1891, and that of May 15, 1893, relative to the Mine Inspectors' Reports of the Anthracite and Bituminous coal regions, I have the honor to present to you for transmission to the General Assembly the report of the Bureau of Mines for the year 1899.

Very respectfully,

JAMES W. LATTA,
Secretary of Internal Affairs.

A 10-99

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ERRATA.

In the text matter on pages ix, x, xi and xiii the figures indicating the number of lives lost per 1,000 employed should be separated by the decimal point instead of by the comma. For instance, in the last paragraph on page ix it is stated that "for every thousand persons employed 3,839 lost their lives," etc., whereas the figures should read 3.839.

On page xxvii, the reference † should read: Two districts were created in 1893.

On page xxviii, the reference * should read: Two districts were created in 1893.

On page xxix the reference * should read: Second district was created in 1892, and the reference † should read: Two districts were created in 1893.

On page xxx the reference † should read: Two districts were created in 1893.

REPORT

OF THE

BUREAU OF MINES.

INTRODUCTION.

I assumed control of the office of Chief of Bureau of Mines on June 1, 1899, and began at once to get an insight into and acquaintance with the various duties of the office. My attention was called to the general complaints of the Mine Inspectors that too much of their time was occupied in doing clerical work, in compiling statistics, and giving data and information to the Bureau of Mines. After a close personal investigation, I found that their complaints were well founded, and I hastened to have the matter corrected. In the change made in the methods of reporting to this Bureau, the clerical work of the Inspectors was reduced about fifty per cent., and the change was made without interfering with or reducing the actual reports that should be made to this office, as per the law that created the Bureau.

During the last six months of 1899 I made a personal visit to each Inspector, and to some of them, several visits. The purpose of these visits was to look into the system that each Inspector had adopted in carrying out the provisions of the mine law. The majority of the Inspectors were conducting their offices in a business-like manner, while a few of them were not up to the standard of requirements. I made many suggestions, when I thought they were needed, and I am pleased to say that each Inspector to whom they were made showed great willingness in following my advice.

I have visited some of the mines in the Bituminous districts, and found that the superintendents and mine foremen in charge were making honest efforts to comply with the mine law, and were even actually doing much more than the law required, especially in the matter of ventilation. I also visited a large number of outside

workings in the Bituminous and Anthracite regions. I appreciate now more than ever before the magnitude of the coal fields of Pennsylvania.

Bituminous coal is mined in 28 counties and anthracite in 10 counties, and in the 38 counties there was mined the magnificent aggregate of 127,101,167 tons, of which 54,034,224 tons were produced from 366 mines in the anthracite region and 73,066,943 tons from 776 mines in the bituminous region.

The average number of days worked in the mines of the anthracite region was about 180; the average quantity produced per day was about 300,000 tons. If these mines had worked an average of 240 days in 1899 they could have produced the enormous quantity of 72,000,000 tons, so that should there ever be a demand for so much coal, an average of 6,000,000 tons per month could be mined from the anthracite collieries.

The average number of days worked in the Bituminous mines was 296; the average daily production was 246,848 tons.

In conformity with part of Section 5 of "An act establishing a Bureau of Mines," which is as follows: "The Chief of the Bureau of Mines shall also establish as far as may be practicable a uniform style and size of blanks for the annual, monthly and special reports of the Mine Inspectors, and prescribe the form and character of subject matter to be embraced in the text and the tabulated statements of their reports, etc., etc." I have endeavored to have the Mine Inspectors adopt a uniform style in making their reports, in which I am pleased to say that I have met with some success in the present report, and expect to make further changes in the report for 1900.

REMARKS ON ACCIDENTS IN ANTHRACITE MINES.

From a superficial glance at the three following tables, it might be inferred that there had been a great increase in the number of lives lost in and about the anthracite coal mines of Pennsylvania.

It will be seen that these tables cover a period of thirty years, from 1870 to 1899 inclusive, and the number of lives lost in the first decade after the passage of the first mine law, which was enacted by the Legislature of 1870, was 2,151, or an average of 215 each year, from 1870 to 1879, inclusive.

In the second decade, under the law, which embraces the period between 1880 and 1889, inclusive, it will be seen that 3,119 persons lost their lives through accidents incident to coal mining, or an average of 430 for each year.

In the third decade, which embraces the period between 1890 and

1899, inclusive, it will be seen that 4,305 persons lost their lives in and about the anthracite mines of the State.

Thus, it will be observed, that in the thirty years during which the anthracite mine law has been in operation, 9,575 persons have lost their lives in and about the anthracite mines, or an average each year of 319.

It is conceded by all who are familiar with the subject that the anthracite law of this State is the best on the subject in the world, therefore, it is the opinion of the writer that this loss of life is not caused through any defect in the law, neither is it the fault of the Mine Inspectors, who are a most intelligent and hard working body of men, and thoroughly practical. Probably some neglect may be imputed to the superintendents and mine foremen of some of the collieries, but the principal causes of the accidents can be truthfully traced to the neglect of the employes themselves. The writer claims that the mine law has been the means of greatly reducing the number of accidents in and about mines, and he will endeavor to prove this assertion by figures.

In the first period, 1870-1879, for every thousand persons employed 3,839 lost their 'ives; in the second period, 1880-1889, for every thousand employes, 3,210 were fatally injured, while in the third period, 1890-1899, 3,140 lives were lost.

Table of Comparison of Anthracite Production, etc., 1870—1879.

Years.	Number of employes.	Number of tons of coal produced.	Number of lives lost.	Number of lives lost per 1,000 employed.	Number of tons produced per life lost.	Number of tons produced per employe.
1870,	36,600	12,653,575	211	5.921	59.970	345
1871,	37,488	13,868,087	210	5.601	66,038	369
1872,	44,745	13,899,976	166	3.709	83,734	310
1873,	48,199	18,751,358	224	4,647	83,711	389
1874,	53,402	17,794,857	231	4.325	77,034	331
1875,	69,966	20,895,220	238	3,401	87,795	298
1876,	70,474	19,611,071	228	3.235	86,013	278
1877,	66,842	22,077,869	194	2.902	113,803	330
1878,	63,964	18,661,577	187	2.923	99,794	291
1879,	68,847	27,711,250	262	3.805	105,708	401
Averages,	56,052	18,592,484	215	3.839	86,436	331

Table of Comparison, Anthracite Production, etc., 1880—1889.

Years.	Number of employes.	Number of tons of coal produced.	Number of lives lost.	Number of lives lost per 1,000 employed.	Number of tons produced per life lost.	Number of tons produced per employe.
1880	73,373	24,843,476	202	2.753	182,987	338
1881	76,861	30,210,018	273	3.551	110,659	397
1882	83,242	30,867,301	293	3.520	105,349	370
1883	91,411	33,200,608	323	3.533	104,356	363
1884	101,078	32,561,390	332	3.284	98,076	322
1885	100,561	33,520,941	356	3.541	94,160	334
1886	102,634	34,064,543	276	2.707	122,095	330
1887	106,574	37,137,251	316	2.965	117,522	348
1888	117,290	41,638,426	364	3.103	114,391	355
1889	119,007	39,015,835	384	3.226	101,604	328
Averages	97,157	33,705,978	312	3.210	108,387	346

Table of Comparison of Anthracite Productions, etc., 1890—1899.

Years.	Number of employes.	Number of tons of coal produced.	Number of lives lost.	Number of lives lost per 1,000 employed.	Number of tons produced per life lost.	Number of tons produced per employe.
1890	109,166	40,089,355	378	3.463	106,033	366
1891	123,345	44,320,967	427	3.463	103,796	359
1892	129,797	45,738,373	396	3.051	115,500	353
1893	138,002	47,179,563	445	3.224	106,021	341
1894	135,655	45,506,179	439	3.144	103,659	325
1895	143,610	51,207,000	422	2.939	121,340	356
1896	144,057	46,674,200	502	3.354	93,703	321
1897	149,567	46,417,564	424	2.836	110,725	313
1898	142,426	47,145,174	411	2.886	114,708	331
1899	140,583	54,034,224	461	3.286	117,210	385
Averages	136,580	47,024,254	430	3.140	109,232	341

By a glance at the above figures it might be inferred that the reduction in the number of accidents is trifling, but a closer study will reveal the fact that there has been a great decrease in the number of fatalities as compared with the number of employes. Comparing the fatalities of the first period which were 3,839 for every thousand persons employed, with those of the second period, when 3,210 persons lost their lives for every thousand employes, average number of employes being 97,157, proves that 3,729 persons would have lost their lives in the second decade, instead of the actual number, 3,119, a decrease in fatalities in favor of the second decade of 610.

Again, the figures for the second period show that for every thou-

sand employes 3,210 persons lost their lives. Applying the same ratio to the last decade, 1890-1899, shows the following results: The average number of persons employed was 136,580, ratio of fatalities for each thousand employes, 3,210; then there would have been 4,384 lives lost instead of 4,305, a decrease of 79 fatalities as compared with the second decade. The reduction in the number of fatal accidents in the second decade from that of the first was 610, while the reduction in the third decade from that of the second was only 79. Some of the reasons why the reduction in the third decade was not proportionately so great as in the second, are that the dangers connected with the mining of coal have greatly increased within the past ten years, owing to the greater depth of the mines, the great increase in the territory covered by mine excavations, the increase in the quantity of explosives used and in the quantity of explosive gases encountered, and the difficulty of properly ventilating these deep mines, but the principal cause is probably found in the large percentage of unskilled and unintelligent non-English speaking miners and laborers that have been employed in and about the mines during the past ten years.

Under the present conditions the writer is doubtful if any better results will be obtained in the next decade, as it is a well-known fact that the dangers resulting from the mining of anthracite coal are increasing each year, and unless the unskilled labor of the present should improve greatly in the practical knowledge of mining, and above all use all known precautions while following this most hazardous of occupations, better results cannot be expected. The English speaking employes can also help greatly to reduce the number of accidents by being careful and vigilant in the performance of their labors, thus setting a good example to their fellows who are not familiar with the English language.

By referring to the foregoing statistics it may be seen that in the first decade an average of only 86,436 tons of coal were produced per life lost. In the second decade 108,387 tons were produced, while in the third 109,232 tons was the average production per life lost in and about the anthracite coal mines. By the foregoing figures, it may be seen that the average quantity produced per life lost has increased in every decade, and while the average increase in production in the third decade over that of the second was small, yet it shows that 845 more tons were produced for every life lost.

The operators and employes of the anthracite mines are aware of the fact that in the last ten years, 1890-1899, a large percentage of the coal has been mined from thin veins varying from two to four feet in thickness. To mine the large increase in production during the last decade, a great percentage of which came from these small veins,

necessitated the use of a greater quantity of explosives, which adds to the danger of mining in proportion to the increase in their use.

In the first decade under the mining law, 185,924,840 tons of coal were produced; in the mining of this* ———— pounds of black powder was used.

In the second decade 211,016,125 pounds, or 105,580 tons of black powder were used to produce 337,059,789 tons of coal, which is equivalent to 1.59 tons of coal for every pound of black powder consumed.

In the third decade it took 584,060,208 pounds, or 292,030 tons of black powder, an equivalent of 1.24 tons of coal produced for every pound of powder used.

The increase in the consumption of black powder in the third decade over that of the second was 63.87 per cent., while the increase in the production of coal for the same period was only 28.32 per cent.

In the second decade only 1,121,689 pounds, or 568 tons of dynamite were used, while in the third decade 18,379,408 pounds, or 9,189 tons were used, therefore, the increase in its use in the third decade over the second was, as can be seen by the above figures, something over 16 tons in the last decade to 1 in the second.

In the above statement the dynamite used in the production of coal is not included, as the major part of it was used at "strippings," sinking of shafts, driving tunnels, blasting rock in gangways and airways, and at batteries where it is used to break large pieces of rock or coal. This is especially the case in the fifth, sixth, seventh and eighth anthracite districts.

REMARKS ON ACCIDENTS IN BITUMINOUS MINES.

In examining the several reports of the Inspectors of Bituminous mines for a series of years, for the purpose of making tables of comparison, I found that the reports previous to 1880 were incomplete, therefore I have the years from 1880 to 1899 inclusive to make deductions from, instead of thirty years as in the anthracite region.

It will be seen by referring to the first table of comparison that in the decade, 1880-1889, 251,801,158 tons of coal were produced, or an average yearly production of 25,180,158 tons. In the production of this vast quantity of coal 800 persons lost their lives in and about the mines, an average of 80 lives per year.

It will be seen that the average production of coal per life lost in the first period of ten years was 314,752 tons, and the ratio of lives

*Records not complete

lost was 1.744 for every thousand persons employed in and about the mines of the Bituminous region.

In the second decade 1890-1899, the total production of coal was 505,915,855 tons, an increase over the production of the first decade of 254,114,697 tons, or more than 100 per cent. The number of lives lost in the production of this large tonnage was 1,709, a proportionate increase as compared with the first decade. For each fatality in the second decade 296,031 tons of coal were produced, a decrease in production of 18,721 tons for each life lost.

The first decade shows a ratio of lives lost of 1,744 for every thousand persons employed, while in the second decade the ratio was 2.090 for every thousand employes, an increase of .346 per thousand, and while this increase seems to be trifling, yet when multiplied by 820,000 employes it shows that the proportionate increase in the second over the first decade was 283, while the increase in production was 101 per cent., the increase in the number of employes only 78 per cent., and the increase in fatalities 114 per cent.

It may be asked, what is the reason for this increase in percentage of fatalities? In answer, it may be said to be due in part to the greater proportion of ignorant and unskilled labor that was employed in the second decade, but there are other reasons, among which are that the mines have been more extensively opened and are deeper and generate greater quantities of explosive gases; in proof of which I may cite that in the last decade 187 lives were lost by explosions of gas in five mines, viz: On June 6, 1890, at Hill Farm Mine, 31 lives were lost; January 27, 1891, at Mammoth Mine, 109 persons were killed; on March 23, 1896 at Berwind Shaft there were 13 fatalities; on September 13, 1898, 9 lives were lost at the Umpire Mine; at Grindstone mine July 24, 1899, 5 lives were lost, and on December 23, 1899, 20 persons perished at the Braznell mine, a total, as stated above of 187 lives that were lost by explosions of gas. The above figures account in part for the increase in fatalities.

Beside the increase in danger from explosive gases, other elements of danger has been introduced into the mines by the use of mining machines and electricity. These have been introduced during the past ten years, and it is the opinion of the writer that the use of electricity in any form in coal mines, is a menace to life, limb and property.

Table of Comparison of Bituminous Mines Production, etc., 1890—1899.

Years.	Number of employes.	Number of tons of coal produced.	Number of lives lost.	Number of lives lost per 1,000 employed.	Number of tons produced per life lost.	Number of tons produced per employe.
1880	32,694	17,169,448	48	1.456	357,697	525
1881	35,189	17,509,642	49	1.392	357,339	497
1882	44,793	25,663,283	94	2.098	273,014	572
1883	35,049	15,908,261	54	1.541	294,597	453
1884	39,994	20,553,090	105	2.625	195,743	513
1885	44,145	24,030,919	72	1.630	333,763	544
1886	51,846	28,607,173	81	1.562	353,175	551
1887	57,774	33,902,630	103	1.783	329,146	586
1888	61,564	33,832,285	89	1.445	380,138	549
1889	55,600	34,625,449	105	1.888	329,766	622
Averages	45,864	25,180,158	80	1.744	314,752	541

Table of Comparison of Bituminous Mines Production, etc., 1880—1889.

Years.	Number of employes.	Number of tons of coal produced.	Number of lives lost	Number of lives lost per 1,000 employed.	Number of tons produced per life lost	Number of tons produced per employe.
1890	66,851	40,740,521	146	2.183	279,045	610
1891	74,166	41,831,456	236	3.183	177,252	564
1892	78,784	46,225,552	133	1.688	347,560	586
1893	79,834	43,442,498	131	1.640	331,469	544
1894	86,177	39,800,240	124	1.441	324,194	460
1895	81,464	51,813,112	148	1.825	334,278	612
1896	83,796	50,273,656	179	2.136	280,853	599
1897	94,143	54,674,272	149	1.723	366,941	581
1898	87,802	64,247,636	198	2.255	323,483	731
1899	91,442	73,066,343	258	2.821	282,421	777
Averages	82,024	56,942,582	171	2.090	304,740	634

INSPECTION OF ANTHRACITE MINES.

In the anthracite coal regions there were 366 mines in operation during the past year, in which there were employed inside and outside the large army of 140,583 persons, who produced during the year 1899 54,034,224 tons of coal for market and home consumption. The anthracite coal fields comprise ten counties, viz: Carbon, Columbia, Dauphin, Lackawanna, Luzerne, Northumberland, Schuylkill, Sullivan, Susquehanna and Wayne. This large territory, where so many persons are employed and such a vast quantity of coal is produced, is

divided into eight inspection districts which are carefully looked after by eight State officials called Mine Inspectors. These inspectors devote their time to seeing that the provisions of the mine law are being obeyed, especially by the employers, and incidentally by the employes. The duties of these inspectors are to guard and look after the health and safety of the persons employed in and about the mines, and also to see to the preservation of property.

In addition to the Mine Inspectors, the several coal companies employ 454 persons, who are called "Mine Foremen," and 852 persons who are known as Fire Bosses, together with a large number of assistants, both to the mine foremen and fire bosses. The duties of these officials are to look after the interests of their employers, and to look after the safety of the men under their charge.

The eight Mine Inspectors have made 1,450 inspections of mines during the past year, which is an average of nearly four inspections for each mine during the year 1899. The same number of inspections were not made of each mine, as the inspections varied from one to fourteen. The majority of the anthracite mines were inspected three or four times during the past year. A few mines were inspected but once, while several were inspected fourteen times.

All the mines do not need the same number of inspections or the same care and watchfulness on the part of the Inspectors. I claim that the Inspectors should be the judges as to the number of visits needed, as they are presumably fitted to know the dangers which exist in the mines in their districts, and in this way know where frequent visits are necessary. There are some mines for which one inspection a year is sufficient, but there are others that should receive monthly, or even more frequent inspections. The mine foreman or his assistant is supposed to visit every working place every alternate day, while in gaseous mines the fire boss makes a daily examination of each working place before the men are permitted to enter the mine, and when needed there are day fire bosses who are always on duty, vigilant and ready for any emergency. In my opinion, the anthracite mine worker is carefully guarded, and if he would use only ordinary precaution while performing his daily labor, the number of accidents would be greatly reduced. It is the opinion of the Mine Inspectors, in which I concur, that from 50 to 75 per cent. of the accidents are due to the carelessness of the victims themselve

I am satisfied that the Mine Inspectors have done their duty during the past year, and that the mines generally were inspected as frequently as required by circumstances. Beside the mine inspections, the Inspectors investigated every fatal, and a large number of serious non-fatal accidents; they made numerous examinations of breakers and machinery to note whether of not the law was being complied with.

The other duties of the Inspectors, are to examine maps, attend inquests, as witnesses in court, consulting upon legal and mining matters, to be present at mine fires, mine explosions and at any other disaster; to examine candidates for Mine Foreman, Assistant Mine Foremen, Fire Bosses, report their labors to the Bureau of Mines, and make an annual report of the year's work. The Mine Inspectors who are anxious to keep up with their work, must do clerical work at their offices for two or three hours, four or five nights each week.

As the Chief of the Bureau of Mines, I wish to be recorded as being satisfied in a general way with the work of the Inspectors during the past year.

INSPECTION OF BITUMINOUS MINES.

In the counties in which bituminous coal is produced there were 776 mines in operation during 1899, and 91,442 persons were employed inside and outside the mines. The total production of coal was 72,066,943 tons.

Bituminous coal is mined in 28 counties in the State, viz:

Allegheny,	Fayette,
Armstrong,	Greene,
Beaver,	Huntingdon,
Bedford,	Indiana,
Blair,	Jefferson,
Bradford,	Lawrence,
Butler,	Lycoming,
Cambria,	McKean,
Cameron,	Mercer,
Centre,	Potter,
Clarion,	Somerset,
Clearfield,	Tioga,
Clinton,	Washington,
Elk,	Westmoreland.

This vast territory, larger in area than some States, is divided into ten inspection districts, supervised by ten Inspectors who give all their time to the discharge of their duties. These Inspectors, during 1899, made 1,928 inspections of mines which is equivalent to two and one-half visits to each mine. A few of the mines were inspected but once, while others were visited as many as twelve times. The Bituminous mine law directs that each mine must be examined at least four times in each year, which would mean that the ten inspectors would be obliged to make 3,104 inspections, or an equivalent of 310 inspections each. This, in connection with the other work which is required of them, would be a physical impossibility and really is not necessary.

See remarks on Anthracite Inspection.

In view of the large increase in the number of mines in the coke regions which are very gaseous, I would here recommend that the Bituminous region be re-districted, and that twelve districts be made of the present ten.

What has been said in reference to the Anthracite Inspectors is equally applicable to the Bituminous ones, but I wish to add that my relations with the Inspectors of both regions have been harmonious during the year. I also take great pleasure in stating that the Bureau has had no friction with either operators or superintendents. Of course we have not always agreed on matters pertaining to mining, but no disputes of a serious nature have occurred.

EXPLOSIONS OF FIRE DAMP.

A most distressing accident occurred in the Braznell mine, on December 23d, 1899, by which 20 persons lost their lives by an explosion of gas. This was one of the most unjustifiable accidents that I have ever known or heard of. If the mine foreman and fire boss had used only ordinary precautions this accidents could not have happened, as the mine was new, being opened for only a few hundred feet in each direction from the shaft. The quantity of gas generated in the mine was small, and a small, steady current of air would have kept the place safe and free from explosive gases in dangerous quantities, as it had done heretofore. After making a close personal inspection of this mine in company with several Inspectors, a few days after the accident occurred, and before the inquest was held, I came to the conclusion that either one of two men was directly accountable for the catastrophe, viz: The fire boss or water hauler. One of these two men must have left a door open some time before half past four A. M., the day of the accident, as they ascended the shaft together at that time. The door being left open, the gas had accumulated in great quantity during the preceding hours, and up to the time that Andy Yamunski entered the chamber in which he worked and fired the gas, at about six A. M.

If my conclusions are not correct, the only other way to account for the large quantity of gas in the mine upon this morning, is that the fan on the surface must have been stopped for a period of time, or slowed to such an extent that the volume of air passing was not strong enough to keep the mine clear of gas. Even if the mistake of not closing one of the doors had been made, or the slowing or stopping of the fan had occurred, if the fire boss had performed his duty as required by law, the accident would not have happened, as he would have detected the large body of gas, and would have prevented any person from entering the shaft. I claim that either the Superinten-

dent or mine foreman, or both, should have seen to it that the fire boss did his duty, as both officials must have been aware of the fact that the fire boss entered the shaft at about 6 P. M., as a man of all work, and that he went out of the mine between 4 and 4.30 A. M., after working his ten hour shift, and they should have instructed him to change his hours of leaving the mine from 4.30 to 6 A. M. The mine foreman should also have insisted on the fire boss making a verbal report to him every morning before he left for home. The fire boss should have insisted that no person whatever be allowed in the mine, or at least inside of the "danger station" provided by law (which the said fire boss should have located) while he was making his examination of the mine with a safety lamp, until he had finished the examination and returned to the "danger station," and had pronounced the mine safe. If this provision of the law had been complied with, there would have been no person in the mine except the fire boss while he was making his examination. In justice to the fire boss, I do not think there would have been any doors left open had he been alone in the mine, and he should not be held responsible for the open door when another irresponsible person was allowed in the mine.

I hold that the mine foreman, superintendent, and even Mr. Braznell, were negligent in allowing the fire boss to go into the mine at 6 P. M. to do odd jobs, work his ten hours, few of which were spent in examining the mines with a safety lamp, then go home without reporting to the mine foreman. I include Mr. Braznell for the reason that the foreman's office was used by the Superintendent and Mr. Braznell, and the record books of the mine foreman and the fire boss were open and accessible to all. The superintendent admitted signing the records, but no question was asked Mr. Braznell at the inquest. I am of the opinion that Mr. Braznell must have seen the records, and for this reason I think that the superintendent and operator should have been included in the verdict of the jury, but the jury brought in a verdict censuring the mine foreman and fire boss. The foreman and fire boss were discharged, and instructions given the District Inspector to proceed against them according to the provisions of the Bituminous mine law. After the accident at Braznell, the following letter, which speaks for itself, was written by one of the general superintendents in the Fifth Bituminous district, and a copy sent to each superintendent under him:

"January 5, 1900.

"To Superintendents:

"Another chapter has been added to the already long list of casualties, due to negligence in the presence of explosive gas, and I earnestly hope that the recent disaster at Braznell Mine has impressed you, as it has me, with the necessity for constant vigilance in dealing with such conditions. I do not know what the investigation may develop, and I would suggest that you keep a close watch on these proceedings,

to see whether any weak points or laxity in the management there may not also be present at your own mine. Enough, I think, is now known to indicate the usual causes—open lights in gas, neglect to properly fence off danger, when discovered, by the fire boss, unlocked safety lamps, and, perhaps, insufficient ventilation. I wish you would again go over these matters carefully with your mine officials. Look well to your ventilation—not alone the volume, but its distribution as well. If your ventilating appliances are insufficient, they will be strengthened. Is your system such as to render defective or unlocked safety lamps in the mine impossible? Do you know that the fire bosses complete their examinations as nearly as possible to the time of starting the pit? The presence of danger for any length of time is liable to breed carelessness—we become accustomed to it. Be sure that your vigilance is constant, and not spasmodic.

"If you know of any safety appliances that are not now a part of your equipment, and which, in your judgment, would tend to improve the conditions at your mine, or add to the safety of those employed therein, we will not hesitate to supply the same. One explosion such as Braznell would pay ten times over for all the appliances and precautions that could possibly be required.

Very truly yours,"

The inquest by the coroner of Fayette county continued for three days, in endeavoring to find the parties who were responsible for this terrible accident. This inquest brought out a mass of valuable testimony, which should have been kept as a matter of record. With this in view the Inspector of the District was instructed to have a good stenographer present to take down all the evidence submitted. The stenographer was there, and the evidence was taken down, but to this date I have failed to get a typewritten copy of the same. The Inspector and myself have both made efforts to get this typewritten copy, but have failed. Why the stenographer fails to reduce his notes to manuscript, I am unable to explain. The excuse given by him was sickness. The testimony taken at the inquest was a revelation, showing gross general neglect on the part of the foreman and fire boss, incompetency on the part of the superintendent, and a general tendency on the part of the operator (who had been the acting superintendent to within a few months of the accident) to have as cheap labor as possible in every capacity, irrespective of qualifications, especially in the hiring of engineers, firemen and fan runners.

The evidence taken before the jury that investigated the accident that occurred at Grindstone, July 24, 1899, by which five men lost their lives by an explosion of gas, shows equal carelessness and lack of system on the part of the mine foreman and fire boss.

The fire boss testified before the coroner's jury that he had reported

the condition of the mine to the mine foreman every morning except on that of the accident.

The following is the testimony of the two officials at the coroner's inquest:

"The fire boss was first sworn. He had been at this mine nearly two years and had a certificate. He made a regular examination of the mine Monday morning, and put up danger boards at rooms where gas was known to exist. He found gas in rooms 35 and 36, on entry 9, and 23 and 30 and 31, on 10 entry, and a little in 13 and 14, on entry 11. The men had worked in entry No. 23 two or three days last week. The danger board was written in English. Gas in No. 23 raised in a volume, but was too high up to pass through out into room 22. He permitted the men to use open lamps in room 22, because he never found gas there, and considered it safe. Witness had been fire boss at this mine two years and reported all danger at all times to the mine foreman, except Monday morning."

"The mine foreman was next sworn. He said he received no report from the fire boss Monday morning, although it was his custom to do so, but he was in a hurry to get the work started. 'I did not go to the lamp shanty for a report and did not examine the fire boss' report book before going down into the pit. I signed the report about eight o'clock, after the accident had occurred. I did not know the amount of gas in room 23. The danger board was up. It meant that any men outside should stay outside. I had found gas in room 23 about a week ago, 10 inches deep on the face, and would not have allowed the men to work in 22 with open lamps had I known there was so much gas. I failed to receive a report from the fire boss on that morning. I went past the lamp house, but did not stop, and the fire boss did not stop me to give me the report.'"

THE PRODUCTION OF COKE.

The coke trade of 1899 was by long odds the greatest in the history of the Connellsville coke region. The trade of 1898, to quote The Courier's annual review at that time, was "the biggest and best year's business the region ever knew," yet the output of 1899 exceeded it 20 per cent. Prices, too, were much better, the average being above any previous year, and the aggregate gross income of the Connellsville operators was fully 50 per cent. greater than the greatest year on record. In short, all previous records have been broken and far outclassed.

The result, however, was not wholly unexpected. The Courier advised its readers that the coke output for 1899 would reach the enor-

mous aggregate of 10,000,000 tons. That prediction has been more than verified. The prospects for the coming year are even brighter. At the present rate of progress the output of 1900 will exceed 11,000,000 tons, which will in all probability be sold at even better prices than those realized during the year just closed, when there were a number of low priced contracts existing.

The range in price for furnace coke during 1899 was from $1.60 to $2.75 per ton, with an average price of $1.95, while foundry coke ranged from $1.90 to $3.00 per ton, with an average price of $2.25. A careful estimate places the average price of the Connellsville region output of 1899 at $2.00 per ton. There were shipped out of the region during the year 523,203 cars of coke containing 10,129,764 tons, which, at the average price estimated above, would yield a gross revenue of $20,259,528, on board the cars at the ovens. For carrying this coke to its destination, the railroads received not less than $15,000,000.

The following tabulated statement shows the total number of ovens at the close of each year, the annual output, average price and gross revenue of the region from 1880 to date:

Year.	Total ovens.	Tons shipped.	Average price.	Gross revenue.
1880	7,211	2,205,946	$1 79	$3,948,643
1881	8,208	2,639,002	1 63	4,301,573
1882	9,283	3,043,394	1 47	4,473,889
1883	10,176	3,552,402	1 14	4,049,738
1884	10,543	3,192,105	1 13	3,607,078
1885	10,471	3,096,012	1 22	3,777,134
1886	10,952	4,180,521	1 36	5,701,086
1887	11,923	4,146,989	1.79	7,437,669
1888	13,975	4,955,553	1 19	6,884,081
1889	14,458	5,930,428	1 34	7,974,663
1890	16,020	6,464,156	1 94	12,537,370
1891	17,264	4,760,665	1 87	8,903,454
1892	17,256	6,329,452	1 83	11,598,407
1893	17,513	4,805,623	1 49	7,141,031
1894	17,831	5,454,451	1 00	5,454,451
1895	17,947	8,244,438	1 23	10,140,658
1896	18,351	5,411,602	1 90	10,282,043
1897	18,628	6,915,052	1 65	11,409,835
1898	18,643	8,460,112	1 55	13,113,179
1899	19,689	10,129,764	2 00	20,259,528

The following table shows the shipments of 1899 by months in cars and tons, with the average number of cars shipped each working day in the month:

Month.	Cars.	Daily average.	Tons.
January,	40,320	1,550	779,792
February,	36,297	1,512	699,474
March,	43,602	1,615	839,763
April,	43,401	1,736	831,964
May,	41,655	1,543	804,023
June,	43,344	1,667	837,123
July,	46,019	1,770	883,735
August,	46,593	1,726	889,078
September,	42,387	1,630	813,190
October,	45,100	1,735	874,357
November,	47,538	1,828	935,608
December,	46,947	1,805	941,657
Total,	523,203	1,676	10,129,764

Following is the output in short tons for 1899 by months compared with that of the two preceding years:

Month.	1897	1898.	1899.
January,	485,624	727,739	779,792
February,	466,206	667,287	699,474
March,	521,484	744,987	839,763
April,	493,027	701,317	831,964
May,	501,857	680,754	804,023
June,	500,483	636,877	837,123
July,	583,867	646,065	883,735
August,	562,703	662,880	889,078
September,	625,902	644,422	813,190
October,	737,498	731,602	874,357
November,	700,352	844,907	935,608
December,	736,049	771,275	941,657
Total,	6,915,052	8,460,112	10,129,764

During the year the Connellsville coke producers were not able to supply all the demands for coke within the borders of the United States, and for this reason there was little effort, if any, made to invade foreign markets. Some coke went to Canada, and a small quantity to Tampico, Mexico, but inquiries from Belgium, Australia, Switzerland, and a few other points went unheeded.

As the demand for coke was much greater than the supply, the year 1899 presented a direct contrast to 1898 in that new ovens were desired and at every tract of coal where conditions warranted more ovens were built. The result is that 1899 closed with a total of 19,689 ovens in the Connellsville region, as compared with 18,463 for the last week in 1898.

The amendment to the mining law permitted the coke companies to use the Wolfe safety lamp, a change that was commended universally, and one that was long desired by mining engineers, mine foremen and superintendents. Almost 100 mines were in constant operation in this region during the whole of the year, yet so effective has been the universal use of locked safety lamps, which are kept and cared for by the coke companies in houses erected for that purpose and given out each morning and reclaimed each afternoon after the labor of the miner is done, that not a single death is known to have resulted from a gas explosion in the Connellsville region during the whole of the year. This is one of the features of the report for 1899, and proves that Connellsville operators are not only money-makers but also life-savers, and that notwithstanding the defects of the mining laws of this State the Connellsville producers have by sufficient ventilation, the use of safety lamps and the employment of able fire bosses and mine foremen, provided the best possible protection to the lives of their employes and their own property against the danger of mine explosion.

The monthly shipments in cars during 1899 to the three chief points of general distribution, with the total monthly output of the region and the average daily shipment for each working day in the month, were as follows:

Month.	Pittsburgh.	West.	East.	Total.	Daily Average.
January,	13,826	20,559	5,935	40,320	1,550
February,	12,402	18,694	5,201	36,297	1,512
March,	13,886	22,741	6,975	43,602	1,615
April,	13,738	22,699	6,964	43,401	1,736
May,	14,154	20,850	6,651	41,655	1,543
June,	13,905	22,194	7,245	43,344	1,667
July,	15,052	22,674	8,293	46,019	1,770
August,	13,348	25,118	8,127	46,593	1,726
September,	13,852	21,708	6,827	42,387	1,630
October,	14,753	22,895	7,452	45,100	1,735
November,	13,925	25,542	8,071	47,538	1,828
December,	13,711	25,258	7,948	46,947	1,805
Total,	166,582	270,932	85,689	523,203	1,676

The monthly shipments for 1898, with the daily averages, were as follows:

Month.	Pittsburgh.	West.	East.	Total.	Daily Average.
January,	14,051	19,044	5,253	38,348	1,475
February,	12,009	17,685	5,431	35,125	1,463
March,	13,326	19,257	6,414	38,994	1,454
April,	12,758	18,235	5,825	36,818	1,416
May,	13,047	17,347	5,387	35,781	1,376
June,	12,023	16,325	5,241	33,589	1,292
July,	13,201	15,655	5,492	34,348	1,321
August,	13,603	15,801	5,552	34,956	1,295
September,	11,856	16,547	5,448	33,851	1,302
October,	13,250	19,330	5,892	38,472	1,480
November,	13,387	20,923	6,681	40,991	1,576
December,	14,453	18,847	6,676	39,976	1,537
Total,	156,961	214,996	69,292	441,249	1,415

The monthly shipments for 1897, with the daily averages, were as follows:

Month.	Pittsburgh.	West.	East.	Total.	Daily Average.
January,	10,583	11,856	3,755	26,194	1,008
February,	9,827	11,487	4,146	25,360	1,056
March,	10,881	12,808	4,754	28,443	1,063
April,	11,787	10,610	4,573	26,970	1,037
May,	11,574	10,228	5,767	27,569	1,060
June,	11,900	9,923	5,855	27,678	1,065
July,	13,841	11,663	5,784	31,288	1,159
August,	13,210	10,900	5,597	29,707	1,140
September,	13,370	14,692	5,259	33,321	1,281
October,	12,682	17,811	5,685	36,178	1,391
November,	13,248	18,130	5,073	36,451	1,458
December,	12,640	20,516	5,068	38,224	1,470
Total,	145,443	160,624	61,316	367,389	1,181

The monthly shipments for 1896, with the daily averages, were as follows:

Month.	Pittsburgh.	West.	East.	Total.	Daily Average.
January,	9,454	15,455	6,946	31,855	1,180
February,	8,524	13,670	5,240	27,434	1,093
March,	8,554	15,879	4,345	28,678	1,103
April,	9,332	15,522	3,823	28,677	1,103
May,	8,992	15,458	3,551	28,001	1,077
June,	8,440	12,892	4,295	25,627	985
July,	8,535	12,406	4,613	25,554	946
August,	7,014	7,442	3,833	18,289	703
September,	6,954	4,747	2,864	14,565	560
October,	8,653	5,714	2,670	17,037	655
November,	8,771	6,967	2,171	17,909	716
December,	11,195	11,750	2,566	25,511	945
Total,	104,318	137,902	46,917	289,137	920

The monthly shipments for 1895, with the daily averages, were as follows:

Month.	Pittsburgh.	West.	East.	Total.	Daily Average.
January,	11,468	19,286	6,716	37,470	1,561
February,	10,306	15,959	6,224	32,489	1,253
March,	11,676	22,156	7,962	41,794	1,614
April,	9,991	14,302	7,189	31,480	1,211
May,	9,928	13,374	6,612	29,914	1,108
June,	10,414	17,395	7,359	35,168	1,406
July,	9,894	17,833	7,530	35,257	1,306
August,	10,673	20,926	7,557	39,156	1,450
September,	9,910	19,139	6,863	35,192	1,436
October,	10,650	21,985	8,163	40,798	1,511
November,	9,862	23,859	7,723	41,444	1,594
December,	9,450	22,379	8,530	40,359	1,552
Total,	124,222	228,593	88,428	441,243	1,410

The monthly shipments for 1894, with the daily averages, were as follows:

Month.	Pittsburgh.	West.	East	Total.	Daily Average.
January,	7,696	7,932	4,690	20,318	752
February,	8,266	8,788	4,680	21,744	906
March,	9,275	11,620	5,507	26,402	978
April,	7,685	9,888	3,046	20,018	800
May,	2,425	1,675	274	4,374	162
June,	5,824	3,442	1,093	10,359	466
July,	8,179	5,650	4,194	18,023	693
August,	8,865	11,844	5,643	26,352	976
September,	9,556	16,632	6,042	32,230	1,289
October,	11,891	17,917	5,885	34,693	1,296
November,	10,474	16,266	6,172	32,912	1,266
December,	11,242	16,061	5,948	33,251	1,231
Total,	100,718	127,785	53,174	281,677	900

Production of Coal in Tons from 1891 to 1899 Inclusive.

Districts.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	Total.
Anthracite.										
First,	7,374,571	6,515,790	6,249,833	6,217,447	6,510,817	5,907,331	6,202,131.34	5,854,638.30	9,981,356	60,813,914
Second,*	6,774,458	5,496,150	5,985,630	5,895,669	6,189,495	5,674,529	5,936,475.10	6,013,537.19	.....	47,965,953
Third,	6,854,711	5,964,467	5,875,823	5,714,929	6,213,834	5,541,952	5,629,914.85	5,659,730.09	6,125,094.15	53,580,454
Fourth,	8,648,152	7,866,277	7,457,418	8,017,852	8,066,539	7,162,961	8,065,768.95	7,549,605.02	6,639,697.65	69,474,269
Fifth,	6,191,027	5,555,850	5,487,550	5,872,427	6,590,966	6,132,627	6,239,058.50	5,842,724.19	5,803,964.07	53,716,193
Sixth,	7,538,404	6,513,155	6,475,930	6,521,510	7,164,898	6,340,631	6,674,807	6,287,366.06	6,442,949.16	60,009,650
Seventh,	6,308,334	5,074,834	5,108,948	5,594,649	6,184,542	5,404,823	5,288,892.88	5,584,678.17	5,302,050.08	49,851,750
Eighth,	4,344,567	4,158,651	4,306,222	4,239,847	3,925,013	3,331,315	3,142,504.63	3,066,092	3,031,067	33,545,278
Total,	54,034,224	47,145,174	46,947,354	48,074,330	50,846,104	45,496,179	47,179,553.25	45,858,371.02	44,376,179.11	431,055,681
Bituminous.										
First,	9,295,646	8,909,339	6,459,200	6,697,601	5,539,951	5,282,181	4,876,307	4,299,437	3,948,665	55,308,327
Second,	12,077,160	9,820,673	9,123,797	7,364,771	9,128,787	6,424,633	6,635,908	8,033,247	6,753,614	75,362,890
Third,	4,230,092	3,761,085	3,400,302	3,243,851	3,254,947	2,641,120	3,224,130	3,207,814	3,422,551	30,185,892
Fourth,	7,246,941	7,516,944	6,541,943	5,762,765	9,294,351	4,296,596	4,850,122	3,606,142	3,834,245	52,950,049
Fifth,	8,872,514	7,754,835	6,501,545	4,979,410	6,423,802	3,908,348	3,629,559	7,360,101	5,423,801	54,853,915
Sixth,	8,594,067	7,161,333	5,501,611	4,722,873	4,406,750	2,981,688	3,140,284	7,360,158	6,950,036	50,818,200
Seventh,	6,489,157	5,943,567	5,000,375	5,624,825	4,693,508	2,438,875	4,435,416	5,897,942	4,843,174	45,366,839
Eighth,	4,476,814	3,352,840	3,798,138	3,809,472	4,709,932	3,454,078	5,043,478	6,811,735	6,611,559	42,068,046
Ninth,†	7,897,490	6,625,738	5,074,385	5,210,992	5,652,813	4,690,811	4,814,178	.....	.....	34,966,407
Tenth,†	3,886,762	3,401,281	3,261,976	2,857,096	2,708,271	1,882,530	2,772,116	.....	.....	20,770,032
Total,	73,066,943	64,247,635	54,663,272	50,273,656	55,813,112	38,000,260	43,421,498	46,576,576	41,787,645	467,650,597

* The second district was created in 1892.

† Ten districts were created in 1893.

Production of Coke in Tons from 1891 to 1899 Inclusive.

Districts.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	Total.
First,									1,000	1,000
Second,	4,075,822	3,049,537	2,505,350	1,902,643	2,569,085	1,635,243	1,511,871.15	2,306,788.87	1,760,264	21,316,604.02
Third,	88,717	95,107	39,020	24,523		3,488	27,039	66,458	147,897.50	492,249.50
Fourth,	495,264	573,349	441,946	409,080	396,198	242,810	289,844	70,473	108,028.06	2,936,992.06
Fifth,	4,431,423	3,964,669	3,493,209	2,629,541	3,756,487	2,264,971	2,092,993	4,280,570	3,117,958	30,031,821
Sixth,	267,787	236,663	240,559	151,134	133,992	41,662	109,348	1,033,866	1,330,374	3,545,385
Seventh,		525	4,500	7,450	5,000	6,000	3,000	12,000	10,392	48,867
Eighth,	45,955	15,693	23,500	47,877	24,140	13,302	50,857	128,475	115,629	465,428
Ninth,*	2,535,141	2,028,177	1,593,325	1,265,318	1,985,206	1,473,982	1,240,163.75			12,121,312
Tenth,*	252,461	208,200	191,882	175,614	42,221	147,786	224,181			1,242,345
Total,	12,192,570	10,171,920	8,533,291	6,613,180	8,922,329	5,829,244	5,549,296.90	7,898,630.87	6,591,542.56	72,202,003.33

* Ten districts created in 1893.

Number of employes in and about the Coal Mines from 1891 to 1899 Inclusive.

Districts.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	Total.
Anthracite.										
First,	17,143	17,890	18,066	17,604	16,272	16,014	15,637	14,121	23,974	156,721
Second,*	15,419	15,725	16,578	16,353	16,269	15,627	14,429	14,111	.....	124,511
Third,	17,156	18,098	17,926	15,577	17,413	16,965	15,779	15,020	17,354	151,288
Fourth,	23,668	23,377	25,650	26,059	24,669	22,764	22,790	21,406	19,411	209,594
Fifth,	14,293	14,649	17,119	17,548	18,467	18,361	17,540	16,477	14,961	149,235
Sixth,	19,905	20,159	21,056	20,979	19,810	20,109	21,872	20,608	19,270	183,768
Seventh,	20,317	19,557	19,670	20,195	19,399	19,121	19,197	18,437	18,325	174,218
Eighth,	12,682	12,965	13,492	13,335	11,306	10,734	10,777	10,417	9,740	105,448
Total,	140,583	142,420	149,557	147,670	143,605	139,695	138,021	130,197	123,035	1,254,783
Bituminous.										
First,	9,880	9,720	10,665	10,977	11,086	11,175	10,114	9,393	8,188	91,198
Second,	14,758	12,501	12,272	11,040	11,195	12,148	10,993	12,204	11,583	108,694
Third,	6,181	6,538	6,131	5,964	6,211	6,734	6,112	6,297	6,118	56,286
Fourth,	9,630	9,961	9,581	8,858	8,578	9,036	8,293	6,597	6,767	77,301
Fifth,	10,448	9,321	8,650	7,524	8,389	7,619	6,663	10,361	10,275	79,250
Sixth,	11,611	10,488	8,966	8,010	7,081	6,944	6,353	12,241	11,560	83,254
Seventh,	8,390	9,656	9,933	10,564	9,838	9,844	9,398	10,619	9,210	87,452
Eighth,	6,140	5,812	6,283	7,197	8,071	8,160	9,423	11,277	10,222	72,585
Ninth,†	8,624	8,152	8,509	8,273	8,557	9,279	8,754	.....	.....	60,148
Tenth,†	5,778	5,653	5,493	5,389	5,098	5,247	5,697	.....	.....	38,355
Total,	91,440	87,802	86,483	83,796	84,104	86,186	81,950	78,989	73,923	754,683

* Eight districts were created in 1892.
† Ten districts were created in 1893.

Number of Fatal and Non-Fatal Accidents that occurred in and about the Coal Mines from 1891 to 1899 inclusive.

Districts	Fatal Accidents.									Non-Fatal Accidents								
	1899	1898	1897	1896	1895.	1894	1893.	1892.	1891.	Total	1899	1898.	1897	1896.	1895.	1894.	1893.	1892.	1891.	Total
Anthracite																				
First	68	1	3	51	39	47	57	55	69	490	116	128	125	131	121	98	96	115	215	1,146
Second.*	9	31	8	39	34	41	35	33	.....	320	159	154	149	161	192	141	173	181	.....	1,319
Third	12	1	63	108	68	51	64	50	60	611	206	201	145	209	167	148	178	163	189	1,606
Fourth	81	1	40	73	74	71	47	83	96	660	188	278	269	225	221	229	221	180	168	1,970
Fifth	43	32	33	42	52	58	58	48	53	419	86	72	114	91	102	95	99	110	115	884
Sixth	72	4	73	67	59	73	60	54	65	577	99	92	73	99	82	94	139	120	93	841
Seventh	2	56	16	76	59	78	77	45	56	535	70	112	119	106	144	76	119	101	155	992
Eighth	24	37	38	46	35	20	27	28	28	293	86	119	112	140	106	40	44	53	68	768
Total	461	444	424	502	420	439	425	396	427	3,905	1,030	1,134	1,106	1,165	1,075	921	1,069	1,023	1,003	9,526
Bituminous																				
First	14	12	22	44	25	25	25	24	20	271	114	109	89	123	66	101	77	87	51	817
Second	26	30	21	26	32	18	14	25	134	326	42	66	52	81	55	39	98	41	38	392
Third	8	3	10	3	7	9	3	2	8	53	24	22	21	17	23	12	25	26	34	204
Fourth	21	1	8	26	14	11	5	9	6	145	33	28	32	19	32	20	22	14	16	216
Fifth	30	14	25	18	13	13	12	23	25	193	70	62	71	48	70	47	44	71	42	525
Sixth	28	22	8	11	8	13	12	14	13	129	33	30	20	16	19	17	15	21	20	191
Seventh	28	26	22	22	18	9	21	25	17	188	64	66	58	49	55	47	44	56	49	488
Eighth	11	7	7	6	13	13	20	11	14	102	29	22	29	36	34	17	31	17	64	329
Ninth.†	23	27	19	19	20	11	15	.....	.....	135	43	26	33	41	40	40	35	.....	.....	258
Tenth.†	4	14	7	4	5	2	4	.....	.....	42	38	27	18	18	25	17	25	.....	.....	168
Total	258	198	149	179	155	124	131	133	237	1,564	487	458	426	398	419	357	346	393	314	3,598
Grand total	719	699	573	681	575	563	556	529	664	5,469	1,517	1,592	1,532	1,563	1,494	1,278	1,415	1,416	1,317	13,124

* Second district was created in 1892.
† Ten districts were created in 1893.

Production of Anthracite Coal in Tons by Counties from 1891 to 1899 Inclusive.

Counties.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	Total.
Carbon,	1,014,623	1,043,663	1,327,235	1,488,550	1,577,146	1,589,295	1,510,289.50	1,427,542.55	1,191,158.50	12,469,602.55
Columbia,	895,061	569,175	481,453	443,330	493,042	510,537	741,990.74	889,489.85	761,559.15	5,785,637.74
Dauphin,	729,757	667,460	662,842	702,335	712,856	699,607	640,724.17	639,879	633,568.70	6,089,627.87
Lackawanna,	13,248,949	11,588,801	11,946,871	11,638,479	11,859,382	11,170,382	11,667,750.25	11,410,553.95	10,184,347.70	104,715,315.90
Luzerne,	20,515,714	18,195,398	17,111,809	17,964,900	19,143,101	17,243,928	18,253,144.75	17,548,508	17,726,559.65	163,733,062.40
Northumberland,	4,339,547	3,549,305	3,774,697	4,117,569	4,573,144	3,893,660	3,731,404.63	3,724,233.70	3,672,828.25	35,346,358.58
Schuylkill,	12,226,938	11,980,700	10,971,943	11,092,772	11,495,388	9,985,092	9,992,085.97	9,564,534.60	9,957,111.10	97,266,564.67
Sullivan,	163,555	147,533	164,046	151,758	152,141	.....	70,418	76,209.65	71,884.35	1,000,545
Susquehanna,	624,125	423,139	476,488	474,637	840,904	413,578	571,956.19	475,622.30	369,742.45	4,670,161.94
Wayne,	275,955	.....	.....	.....	.....	.....	.....	.....	3,450.10	279,405.10
Total,	54,034,224	47,145,174	46,917,357	48,074,330	50,846,104	45,506,179	47,179,563.20	45,858,371	43,575,179.95	431,055,681.75

Number of Employes in and about the Mines of the Anthracite Region by Counties from 1891 to 1899 Inclusive.

Counties.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	Total.
Carbon,	2,238	2,986	4,748	4,153	4,382	5,391	4,410	3,848	3,312	35,468
Columbia,	2,369	2,436	1,909	2,074	1,756	2,011	2,654	2,424	2,787	20,360
Dauphin,	2,360	2,174	2,072	1,988	1,985	2,092	2,094	2,104	2,125	19,024
Lackawanna,	30,886	32,422	33,892	32,771	30,367	30,629	29,021	27,233	26,430	273,741
Luzerne,	72,548	52,817	55,138	56,717	55,798	52,994	51,392	47,944	48,825	474,153
Northumberland,	14,657	13,833	15,139	14,787	14,522	13,870	13,487	12,835	14,437	127,607
Schuylkill,	35,508	34,298	35,098	35,960	32,292	31,696	33,611	32,099	29,010	297,212
Sullivan,	251	321	327	334	312	.....	307	261	229	2,442
Susquehanna,	1,219	1,193	1,234	1,186	2,191	1,012	1,045	999	823	10,893
Wayne,	406	.....	.....	.....	.....	.....	.....	.....	18	464
Total,	140,583	142,420	149,557	147,670	143,605	139,695	138,021	130,197	121,056	1,291,364

Production of Bituminous Coal in Tons by Counties from 1891 to 1899 Inclusive.

Counties.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	Total.
Allegheny,	9,978,790	9,079,104	7,122,227	7,858,414	7,146,699	6,415,611	6,894,510	7,227,370.15	6,216,428	67,939,153.15
Armstrong,	1,037,396	843,495	570,343	566,771	649,174	577,928	300,222	349,561.75	299,945	5,194,835.75
Beaver,	264,877	205,395	183,149	236,587	267,863	135,752	151,346	188,379	139,114	1,772,462
Bedford,	489,781	351,091	353,489	319,575	430,804	288,753	490,416	565,760	413,537	3,703,206
Blair,	115,701	202,008	317,535	281,237	351,299	269,211	170,144	278,495	218,955	2,204,585
Bradford,	31,835	22,508	41,588	52,467	57,711	25,474	42,739	53,517	68,697	396,536
Butler,	203,170	161,224	227,439	223,015	220,895	134,334	160,443	132,040.50	160,273	1,622,833.50
Cambria,	7,272,644	6,564,959	5,571,721	4,899,048	4,461,629	3,005,261	3,377,459	3,289,194	3,073,078	41,514,993
Cameron,										
Centre,	872,771	568,128	406,482	445,268	303,813	174,548	1,259,351	372,431.61	490,300	4,893,092.61
Clarion,	270,956	266,476	581,736	364,782	428,675	401,088	772,622	788,873.25	739,068	4,614,276.25
Clearfield,	5,860,397	4,885,780	5,392,472	4,889,793	5,442,299	4,156,310	6,081,324	6,631,013.18	6,706,015.80	50,045,403.98
Clinton,	221,090	166,226	157,388	134,568	94,692	100,000	94,582	92,242	131,619	1,192,407
Elk,	1,212,102	873,448	765,110	790,669	602,428	515,070	617,878	756,652.19	739,068	6,881,615.19
Fayette,	14,765,844	13,090,756	10,112,944	8,562,571	10,124,541	6,684,153	6,105,845	7,791,330	5,758,200	82,996,184
Greene,										
Huntingdon,	327,106	286,020	285,676	333,935	289,092	187,070	291,739	350,005	277,938	2,628,581
Indiana,	619,378	512,923	532,989	392,029	483,795	406,878	359,170	638,667	539,628	4,485,457
Jefferson,	6,412,506	6,648,980	5,309,050	4,717,363	4,528,774	3,467,481	3,072,297	3,682,774.38	3,600,052.45	41,439,277.83
Lawrence,	191,224	186,024	196,506	198,666	227,599	135,411	197,277	119,539	172,197.50	1,624,443.50
Lycoming,	101,924	98,118	91,735	82,730	83,830	80,160	53,192	17,000		608,689
McKean,	25,435	29,631	47,022	56,989	38,207	19,844	19,463	21,058	15,737	273,386
Mercer,	476,618	340,582	426,302	502,317	502,945	297,662	486,049	442,632.75	579,770	4,054,877.75
Potter,										
Somerset,	2,686,299	1,720,662	1,166,327	621,980	521,995	434,188	483,770	423,179	441,070	8,499,470
Sullivan,*						90,538				90,538
Tioga,	634,301	917,026	925,893	800,658	781,814	684,627	942,252	964,756	993,259	7,644,586
Washington,	4,779,097	4,661,180	3,761,234	4,366,518	3,410,694	3,373,778	3,414,444	2,726,941	2,407,837	32,901,723
Westmoreland,	14,189,423	11,475,891	10,127,965	8,566,705	10,325,245	7,739,080	7,583,346	8,696,964.35	7,605,867.95	86,310,487.30
	†26,278									
Total,	73,066,943	64,247,635	54,674,322	50,273,656	55,813,112	38,000,260	43,421,498	46,576,576.11	41,787,644.70	465,587,655.11

* After 1894 in Anthracite region. † 26,278 tons of coal reported from Tenth district, product of small mines not under provisions of the law.

Number of Employes in and about the Mines of the Bituminous Region by Counties from 1891 to 1899 Inclusive.

Counties.	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	Total.
Allegheny	13,160	14,052	14,395	14,732	15,022	15,345	14,351	13,447	12,305	126,809
Armstrong	1,456	1,527	971	1,100	1,139	1,204	632	740	573	9,322
Beaver	473	441	417	608	592	455	293	467	264	4,010
Bedford	978	915	893	831	863	845	967	951	842	7,995
Blair	297	566	516	523	788	707	536	635	624	5,192
Bradford	68	76	127	115	109	90	83	122	169	959
Butler	341	426	590	506	489	461	328	356	292	3,783
Cambria	9,782	9,284	8,918	8,237	7,219	7,648	6,691	5,672	5,229	68,080
Cameron	1,165	996	664	773	632	647	2,416	729	858	8,880
Centre	708	575	1,185	828	842	1,321	1,626	1,488	1,346	9,419
Clarion	8,072	7,947	9,016	8,989	9,416	9,793	10,933	10,639	10,188	84,993
Clearfield	235	206	236	211	198	151	180	173	200	1,790
Clinton	1,786	1,367	1,245	1,287	1,093	1,297	1,332	1,243	1,365	12,015
Elk	15,838	14,563	13,802	12,250	13,387	12,566	11,185	11,921	11,076	115,928
Fayette	542	490	583	701	630	689	630	668	597	5,540
Greene	783	696	675	860	707	760	873	1,021	822	7,087
Huntingdon	7,029	7,278	6,039	5,972	6,166	6,342	4,234	5,974	5,623	54,657
Indiana	352	500	558	424	503	494	460	267	368	3,926
Jefferson	203	193	190	166	164	166	118	60		1,260
Lawrence	53	70	95	94	86	42	39	44	31	554
Lycoming	792	938	1,058	1,022	1,118	1,136	1,010	1,112	1,098	9,285
McKean	3,779	2,671	1,499	860	618	865	677	554	576	12,099
Mercer						337				337
Somerset	1,949	2,207	2,089	1,988	2,085	2,207	2,230	2,121	1,969	18,836
Sullivan,*	5,262	5,299	6,532	7,305	6,835	6,998	7,110	5,502	4,550	55,394
Tioga	16,615	14,519	14,270	13,389	14,203	14,570	13,016	13,083	12,958	126,623
Washington										
Westmoreland										
Total	91,449	87,802	86,483	83,605	84,104	86,186	81,950	78,989	73,923	754,683

* After 1893, in Anthracite Region.

Production of Coke in Tons by Counties from 1891 to 1899 Inclusive.

Counties..	1899.	1898.	1897.	1896.	1895.	1894.	1893.	1892.	1891.	Total.
Allegheny,	.....	525	4,500	250	5,000	6,000	3,000	12,000	10,392	41,667
Armstrong,	.....	.....	.....	.....	.....	.....	6,556	.....	11,314.50	17,870
Beaver,	.....	.....	.....	.....	.....	80	100	.....	56	236
Bedford,	51,636	39,708	.....	39,260	40,420	6,016	3,000	25,876	1,759	207,615
Blair,	17,932	50,680	36,904	36,943	28,700	8,200	39,361	101,117	79,252	379,089
Bradford,	.....	.....	263,474	165,435	142,047	42,747	.....	.....	.....	613,703
Butler,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cambria,	313,424	265,282	.....	.....	.....	.....	122,219	217,838	333,899	1,252,662
Cameron,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Centre,	.....	.....	.....	.....	.....	13,069	83,203	27,600	62,976.06	186,848
Clarion,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clearfield,	227,722	173,108	191,040	157,756	117,830	45,574	131,360	105,568	197,793	1,347,851
Clinton,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Elk,	293	.....	.....	.....	.....	8,257	29,421	17,181	2,500	57,652
Fayette,	6,421,534	5,660,209	4,851,918	3,692,307	5,339,887	3,426,791	3,011,054	4,268,825	3,091,301	39,763,916
Greene,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Huntingdon,	3,750	.....	.....	.....	.....	.....	29,103	4,604	.....	37,457
Indiana,	48,760	15,712	16,330	22,798	7,172	5,250	33,620	40,234	105,623	295,499
Jefferson,	535,427	619,731	445,013	407,865	276,578	219,655	255,473	394,494	439,942	3,594,178
Lawrence,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Lycoming,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McKean,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mercer,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Potter,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Somerset,	23,971	14,937	.....	9,086	6,862	5,027	9,953	11,745	26,657	108,238
Tioga,	.....	503	476	1,032	976	450	984	1,093	1,982	7,496
Washington,	.....	.....	.....	7,200	.....	.....	.....	.....	1,000	8,200
Westmoreland,	4,548,121	3,351,525	2,723,636	2,073,291	2,956,908	1,937,128	1,700,889.30	2,626,454.87	2,185,096	24,103,049
Total,	12,192,570	10,171,920	8,533,291	6,613,253	8,922,380	5,724,244	5,459,296.90	7,854,629.87	6,551,542.50	72,023,126

Total number of tons of coal mined, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, &c., used in the Anthracite districts of Pennsylvania for the year ending December 31, 1899.

Number of District.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Average number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
First,	6,823,295	467,122	84,244	7,374,571	174	17,143	68	116	244,866	121,080	1,888
Second,	6,173,718	361,049	239,691	6,774,458	175	15,419	49	159	237,891	113,829	1,933
Third,	6,159,788	566,472	128,451	6,854,711	167	17,156	62	206	219,320	266,688	2,097
Fourth,	7,667,531	740,327	240,294	8,648,152	169	23,668	81	188	215,209	392,868	2,736
Fifth,	5,970,331	704,194	116,502	6,191,027	192	14,293	43	86	107,172	1,206,368	1,622
Sixth,	6,556,088	888,274	94,042	7,538,404	176	19,905	72	99	154,169	450,914	2,068
Seventh,	5,456,091	730,121	122,122	6,308,334	180	20,317	52	90	139,724	541,420	2,676
Eighth,	3,741,149	514,351	86,067	4,344,567	199	12,682	34	86	63,340	556,241	1,270
Total,	47,950,961	4,971,910	1,111,413	54,034,224	180	140,583	461	1,030	1,372,691	3,649,417	15,690

Total number of tons of coal mined, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, &c., used in the Anthracite Districts of Pennsylvania, for the year ending December 31, 1899—Continued.

Number of District.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
	Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
First,	357	9,355	124	13,965	23,320	42	7	10	411	27,149	85	59,353	40,740	15	12
Second,	520	12,056	70	7,995	20,051	22	.....	8	360	23,435	87	43,815	26,463	6	5
Third,	351	12,324	193	27,356	39,680	35	2	4	619	52,871	123	76,322	47,572	9	22
Fourth,	908	33,376	175	27,979	61,355	41	2	2	603	74,934	111	80,443	38,905	4	24
Fifth,	709	26,256	274	30,439	56,695	102	6	.....	517	34,711	181	156,778	84,314	7	14
Sixth,	601	21,803	798	37,646	59,459	43	6	.....	510	14,669	140	87,386	42,012	1	26
Seventh,	431	15,134	242	34,300	49,434	39	1	5	433	39,041	183	68,773	43,055	3	4
Eighth,	358	9,470	232	30,543	40,013	28	.....	.....	301	21,290	69	58,760	26,469	.....	9
Total,	4,235	139,774	2,108	210,223	350,007	352	24	29	3,754	288,100	979	631,630	349,530	45	116

Total number of tons of coal mined and tons of coke produced, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, &c., used in the Bituminous Districts for the year ending December 31, 1899.

Number of District	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at collieries.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked, average.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
First,	9,158,833	77,183	59,624	9,259,646	.....	227	9,880	44	114	30,879	4,430	720
Second,	5,719,202	198,852	150,096	12,077,460	4,075,822	276	14,758	36	42	1,954	11,510	1,331
Third,	4,018,866	29,610	17,055	4,230,092	88,717	274	6,181	8	21	28,118	6,187	475
Fourth,	6,240,176	15,428	33,383	7,246,941	495,264	286	9,630	21	33	44,911	40,365	958
Fifth,	2,214,050	155,664	83,056	8,872,514	4,431,423	306	10,448	50	70	25,524	40,274	987
Sixth,	8,032,419	96,756	37,284	8,291,067	267,787	290	11,611	28	33	46,468	67,379	870
Seventh,	6,154,952	52,492	153,904	6,489,157	.....	251	8,390	28	64	9,545	845	643
Eighth,	4,327,842	51,260	10,321	4,476,814	45,955	245	6,260	11	29	26,357	19,829	600
Ninth,	3,957,647	119,425	63,577	7,897,490	2,535,141	264	8,624	23	43	21,056	13,193	933
Tenth,	2,553,309	27,279	22,642	3,886,762	252,461	244	5,778	9	38	23,616	18,064	496
Total,	53,376,796	823,445	630,801	73,066,943	12,192,570	296	91,571	258	487	258,428	222,076	8,013

Total number of tons of coal mined and tons of coke produced, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, &c., used in the bituminous districts for the year ending December 31, 1899—Continued.

Number of District.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
	Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
First	43	2,065	112	2,909	9,116	2	3	9	137	6,305	54	8,585	3,753	28	9	.....
Second	139	5,094	140	9,564	15,746	31	4	2	203	16,307	99	51,778	21,299	11	19	8,052
Third	26	1,000	47	3,680	4,680	2	.....	.....	66	2,782	36	10,027	8,940	1	13	262
Fourth	23	1,640	114	11,275	12,915	24	2	18	73	3,882	32	35,826	19,826	10	24	1,617
Fifth	43	2,701	168	11,415	14,191	22	1	3	115	13,041	65	23,554	12,226	12	20	8,514
Sixth	54	7,025	102	9,135	16,320	4	2	38	95	9,473	70	17,555	10,205	32	33	489
Seventh	73	4,146	90	9,065	13,211	5	.....	22	141	11,299	63	13,753	6,275	32	25	.....
Eighth	34	825	49	4,146	4,931	.....	.....	12	44	3,666	42	18,028	13,982	7	4	156
Ninth	27	3,093	110	6,486	9,979	16	1	10	131	1,076	38	11,615	7,306	16	10	5,235
Tenth	27	1,213	36	3,060	3,339	4	.....	8	35	2,220	21	8,114	4,755	7	3	1,191
Total	539	28,802	968	70,735	104,419	110	13	122	1,043	70,651	520	198,835	108,067	156	160	27,516

TABLE showing causes of accidents, number attributable to each cause, and total number of fatal and non-fatal accidents in and about the Anthracite collieries during 1899, together with the nu mber of wives made widows, and number of children left fatherless by these casualties.

Causes of Accidents.	1st District.				2d District.				3d District.				4th District.			
	Fatal.		Non-Fatal.		Fatal.		Non-Fatal.		Fatal.		Non-Fatal.		Fatal.		Non-Fatal.	
	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.
Explosions of gas and dust,	1	.....	9	.....	1	.....	9	.....	3	.....	31	.....	10	.....	27	.....
Explosions, powder, blasts, etc.,	4	.....	14	.....	1	.....	24	.....	5	.....	18	.....	4	.....	12	.....
Falls of roof, slate, coal, etc.,	45	.....	52	.....	26	.....	66	.....	37	.....	66	.....	40	.....	85	.....
Crushed by cars, machinery, etc.,	10	3	27	3	13	5	40	11	6	.....	51	.....	12	.....	32	.....
Falling down shafts and slopes,	3	.....	.....	.....	1	.....	2	.....	.....	.....	.....	.....	3	.....	1	.....
Kicked or injured by mules,	2	.....	7	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....
Miscellaneous causes,	.....	.....	1	3	2	.....	.....	5	3	8	19	21	6	6	17	14
Totals,	65	3	110	6	44	5	143	16	54	8	188	21	75	6	174	14

TABLE showing causes of accidents, number attributable to each cause, and total number of fatal and non-fatal accidents in and about the Anthracite Collieries during 1899, together with the number of wives made widows, and number of children left fatherless by these casualties—Continued.

Causes of Accidents.	5th District.				6th District.				7th District.				8th District.			
	Fatal.		Non-Fatal.		Fatal.		Non-Fatal.		Fatal.		Non-Fatal.		Fatal.		Non-Fatal.	
	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.	Inside.	Outside.
Explosions of gas and dust,	2	.....	8	.....	8	.....	24	.....	2	.....	.....	.....	5	.....	16	.....
Explosions, powder, blasts, etc.,	2	.....	11	.....	11	.....	15	.....	4	.....	13	.....	2	.....	5	3
Falls of roof, slate, coal, etc.,	18	.....	20	2	25	.....	31	1	22	.....	39	.....	13	.....	22	.....
Crushed by cars, machinery, etc.,	4	7	10	10	8	3	11	3	4	7	13	8	1	4	14	10
Falling down shafts and slopes,	.....	.....	.....	.....	5	.....	1	1	5	.....	2	.....	4	.....	6	.....
Kicked or injured by mules,	.....	.....	.....	.....	1	1	2	.....	.....	.....	5	.....	1	.....	1	1
Miscellaneous causes,	4	6	10	15	10	.....	6	4	3	5	4	6	3	.....	4	5
Totals,	30	13	59	27	68	4	90	9	40	12	76	14	29	4	67	19

Number wives left widows, 249.
Children left fatherless, 609.

TABLE showing the nationalities of persons fatally and non-fatally inujred in and about the Anthracite Collieries during 1899, as reported to the Bureau of Mines by the Inspectors.

Nationalities.	1st District.		2d District.		3d District.		4th District.		5th District.		6th District.		7th District.		8th District.		Total.	
	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.
Poles,	16	24	6	26	19	53	29	52	10	8	48	64	16	21	8	11	152	259
Americans,	10	19	7	27	11	54	19	40	8	14	6	6	10	26	19	41	90	227
Irish,	10	22	14	41	13	33	6	21	6	11	8	20	9	17	1	11	67	176
English,	9	12	3	11	2	9	2	6	3	3	3	3	5	2	.....	4	27	50
Welsh,	6	15	7	26	.....	11	10	40	2	.....	2	3	2	3	1	5	30	103
Austrians,	3	2	.....	4	.....	.....	3	2	1	7	1	.....	1	.....	.....	.....	11	15
Hungarians,	5	7	.....	1	6	17	.....	.....	8	27	1	.....	4	6	3	7	27	65
Russians,	2	.....	1	1	1	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	5
Slavs,	1	1	.....	1	.....	7	5	9	.....	.....	.....	.....	.....	.....	.....	1	6	22
Greeks,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Italians,	3	5	3	6	2	8	.....	1	4	11	1	1	.....	.....	.....	.....	13	32
Scotch,	.....	3	2	1	2	1	.....	.....	1	.....	.....	.....	2	4	.....	.....	7	9
Germans,	.....	2	2	9	5	12	2	6	.....	5	2	2	3	9	1	4	15	49
French,	.....	1	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	1	.....	5
Swedes,	.....	.....	2	2	1	.....	2	2	.....	.....	.....	.....	.....	.....	.....	.....	5	4
Bohemians,	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Lithuanians,	.....	.....	1	2	.....	.....	3	9	.....	.....	.....	.....	.....	.....	1	.....	5	11
Spanish,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	1
Total,	68	116	49	159	62	209	81	188	43	86	72	99	52	90	34	86	461	1,033

TABLE showing causes of accidents, number attributable to each cause, and total number of fatal and non-fatal accidents that occurred in and about the Bituminous Coal Mines for 1899, together with number of wives made widows and children left fatherless by these casualties.

Causes of Accidents.	1st District.		2d District.		3d District.		4th District.		5th District.		6th District.		7th District.		8th District.		9th District.		10th District.		Total.	
	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.
Explosions of gas and dust,	1	5	.....	.....	.....	1	.....	.....	24	5	2	2	.....	1	.....	.....	2	.....	.....	.....	29	14
Explosions powder, blasts, etc.,	1	1	.....	2	.....	.....	.....	3	1	5	2	15	.....	.....	.....	3	1	7	1	3	6	37
Falls of roof, slate, coal, etc.,	35	70	23	23	3	10	15	17	20	27	13	8	22	43	8	19	16	24	8	22	163	265
Injured by mine cars, machinery, etc.,	4	8	9	13	1	7	6	12	4	29	7	10	5	16	3	7	2	10	.....	11	44	123
Falling down shafts and slopes,	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	1	.....	.....	2	.....	.....	.....	3	2
Kicked or injured by mules,	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	2
Boiler explosions,	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....
Electric shocks,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	.....	1	.....	.....	.....	.....	.....	.....	.....	5	.....
Miscellaneous causes,	2	30	4	2	1	3	.....	1	.....	1	.....	.....	.....	3	.....	.....	.....	2	.....	2	7	44
Total,	44	114	36	42	8	21	21	33	50	70	28	33	28	64	11	29	23	43	9	38	258	487

Number wives left widows, 148; children left fatherless, 470.

TABLE showing the nationalities of persons fatally or non-fatally injured in and about the Bituminous Collieries during 1899, as reported to the Bureau of Mines by Inspectors.

Nationalities.	1st District.		2d District.		3d District.		4th District.		5th District.		6th District.		7th District.		8th District.		9th District.		10th District.		Total.	
	Fatal.	Non-Fatal.	Fatal	Non-Fatal.		Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.	Fatal.	Non-Fatal.
Americans,	11	10	11	12	4	14	3	5	10	25	9	17	4	16	2	6	6	11	2	14	62	160
Austrians,	2	3	8	3	.....	.....	2	1	2	.....	2	2	.....	.....	.....	.....	1	1	.....	.....	12	14
English,	4	9	.....	2	.....	1	1	7	1	3	3	4	.....	4	3	5	1	3	1	2	14	40
French,	.....	2	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	2	.....	1	.....	.....	.....	.....	2	6
Germans,	4	11	3	2	.....	3	.....	1	1	5	3	.....	2	6	1	1	2	4	.....	2	16	35
Hungarians,	3	6	1	1	.....	.....	1	2	7	8	1	.....	.....	12	.....	.....	3	4	1	2	17	34
Irish,	2	4	1	3	2	.....	.....	1	.....	6	1	.....	1	4	1	2	1	1	.....	1	9	22
Italians,	7	8	4	3	1	.....	8	3	1	2	1	.....	3	5	.....	1	2	9	.....	2	26	33
Poles,	3	1	.....	3	.....	1	1	3	5	3	3	2	3	4	.....	2	1	2	2	2	20	26
Russians,	1	1	2	2	.....	.....	.....	.....	.....	.....	.....	.....	1	5	.....	.....	.....	.....	.....	.....	4	8
Scotch,	2	3	2	1	.....	1	1	5	.....	2	.....	.....	2	.....	1	1	1	1	1	5	10	19
Swedes,	1	3	1	3	1	1	1	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	1	5	10
Slavs,	3	16	5	1	.....	.....	2	2	21	15	4	7	5	3	.....	6	5	7	1	6	46	64
Welsh,	1	3	2	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	3	4	.....	.....	.....	1	7	8
Bohemians,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	2	.....
Swiss,	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1
Belgians,	.....	1	1	3	.....	.....	.....	.....	.....	.....	.....	.....	4	3	.....	.....	.....	.....	.....	.....	5	7
Unknown,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	.....

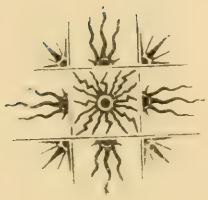
Fatal Accidents per each 1,000 employes in and about the Anthracite Coal Mines, and tons of coal mined per each Fatal Accident from 1870 to 1899 inclusive.

Years.	Employes.	Fatal accidents.	Fatal accidents per 1,000 employes.	Number tons of coal mined.	Number of tons mined for each fatal accident.
1870,	35,660	211	5.929	12,653,575	59,970
1871,	37,488	210	5.601	13,868,087	66,838
1872,	44,745	166	3.709	13,899,976	83,734
1873,	48,199	224	4.647	18,751,358	83,711
1874,	53,402	231	4.325	17,794,857	77,034
1875,	69,966	238	3.401	20,895,220	87,795
1876,	70,474	228	3.235	19,611,071	86,013
1877,	66,842	194	2.902	22,077,869	113,803
1878,	62,964	187	2.923	18,661,577	99,794
1879,	68,847	252	3.805	27,711,250	105,708
1880,	73,373	202	2.753	24,843,476	182,987
1881,	76,031	273	3.591	30,210,018	110,659
1882,	83,242	293	3.520	30,867,301	105,349
1883,	91,411	323	3.533	33,200,608	104,336
1884,	101,078	332	3.284	32,561,390	98,076
1885,	100,534	356	3.541	33,520,941	94,160
1886,	103,034	279	2.707	34,064,543	122,095
1887,	106,574	316	2.965	37,137,251	117,522
1888,	117,280	364	3.103	41,638,426	114,391
1889,	119,007	384	3.226	39,015,835	101,604
1890,	109,166	378	3.463	40,080,355	106,033
1891,	123,345	427	3.463	44,320,967	103,796
1892,	129,797	396	3.051	45,738,373	115,500
1893,	138,002	445	3.224	47,170,563	106,021
1894,	139,655	439	3.144	45,506,179	103,659
1895,	143,610	422	2.939	51,207,000	121,341
1896,	149,670	502	3.354	48,074,330	95,766
1897,	149,557	424	2.836	46,947,354	110,725
1898,	142,420	411	2.886	47,145,174	114,708
1899,	140,583	461	3.271	54,034,224	117,211

Fatal accidents per each 1,000 employes in and about the Bituminous Coal Mines, and tons of coal mined for each Fatal Accident from 1884 to 1899 inclusive.

Year.	Employes.	Fatal accidents.	Fatal accidents per 1,000 employes.	Number tons of coal mined.	Number tons mined for each fatal accident.
1884,*	39,994	105	2.625	20,553,090	195,743
1885,	44,145	72	1.630	24,030,919	333,763
1886,	51,846	81	1.562	28,607,173	353,175
1887,	57,774	103	1.783	33,902,030	329,146
1888,	61,564	89	1.445	33,832,285	380,138
1889,	55,600	105	1.888	34,625,449	329,766
1890,	66,851	146	2.183	40,740,521	279,045
1891,	74,166	236	3.182	41,831,456	177,252
1892,	78,784	133	1.688	46,225,552	347,560
1893,	79,834	131	1.640	43,422,498	331,469
1894,	86,177	124	1.441	39,800,210	324,194
1895,	84,964	155	1.825	51,813,112	334,278
1896,	83,796	179	2.136	50,273,656	280,858
1897,	86,433	149	1.723	54,674,272	366,941
1898,	87,802	198	2.255	64,247,635	323,483
1899,	91,440	258	2.821	72,866,943	282,429

* Returns prior to 1884 were not reliable, and therefore are not published.



LAWS RELATING

TO

COAL MINING.

LAWS RELATING TO COAL MINING.

AN ACT

To protect miners in the bituminous coal region of the Commonwealth.

Section 1. Be it enacted, &c., That after the period of three months from the passage of this act, any miner employed by an individual, firm or corporation for the purpose of mining coal shall be entitled to receive from his employer, and failing to receive then to collect, by due process of law, at such rates as may have been agreed upon between the employer and the employed, full and exact wages accruing to him for the mining of all sizes of merchantable coal so mined by him, whether the same shall exist in the form of nut or lump coal; and in the adjudication of such wages seventy-six pounds shall be deemed one bushel, and two thousand pounds net, shall be deemed one ton of coal: Provided, That nothing contained in this act shall be construed to prevent operators and miners contracting for any method of measuring and screening the coal mined by such miners, as they may contract for.

Section 2. That at every bituminous coal mine in this Commonwealth, where coal is mined by measurement, all cars, filled by miners or their laborers, shall be uniform in capacity at each mine; no unbranded car or cars shall enter the mine for a longer period than three months, without being branded by the mine inspector of the district, wherein the mine is situated; and any owner or owners, or their agents, violating the provisions of this section, shall be subject to a fine of not less than one dollar per car for each and every day as long as the car is not in conformity with this act, and the mine inspector of the district, where the mine is located, on receiving notice from the check-master or any five miners working in the mine, that a car or cars are not properly branded, or not uniform in capacity according to law, are used in the mine where he or they are employed, then inside of three days from the date of receiving said notice, it shall be his duty to enforce the provisions of this section, under penalty of ten dollars for each and every day he permits such car or cars to enter the mine: Provided, That nothing contained in this section shall be construed or applied to those mines which do not use more than ten cars.

Section 3. That at every bituminous coal mine in this Commonwealth, where coal is mined by weight or measure, the miners or a majority of those present at a meeting called for that purpose, shall have the right to employ a competent person as check-weighman, or check-measurer as the case may require, who shall be permitted at all times to be present at the weighing or measurement of coal, also have power to weigh or measure the same, and during the regular working hours to have the privilege to balance and examine the scales, or measure the cars: Provided, That all such balancing or examination of scales shall only be done in such way, and in such time, as in no way to interfere with the regular working of the mines. And he shall not be considered a trespasser during working hours while attending to the interests of his employers. And in no manner shall he be interfered with or intimidated by any person, agent, owner or miner. And any person violating these provisions shall be held and deemed guilty of a misdemeanor, and upon conviction thereof, he shall be punished by a fine of not less than twenty dollars, and not exceeding one hundred dollars, or imprisonment at the discretion of the court. It shall be a further duty of check-weighman or check-measurer to credit each miner with all merchantable coal mined by him, on a proper sheet or book to be kept by him for that purpose. When differences arise between the check-weighman or check-measurer and the agent or owners of the mine, as to the uniformity, capacity or correctness of scales or cars used, the same shall be referred to the mine inspector of the district where the mine is located, whose duty it shall be to regulate the same at once, and in the event of said scales or cars proving to be correct, then the party or parties applying for the testing thereof to bear all costs and expenses thereof; but if not correct then the owner or owners of said mine to pay the cost and charges of making said examination: Provided further, That should any weighman or weighmen, agent or check-measurer, whether employed by operators or miners, knowingly or willfully adopt or take more or less pounds for a bushel or ton than is provided for in the first section of this act, or willfully neglect the balancing or examining of the scales or cars, or knowingly and willfully weigh coal with an incorrect scale, he shall be guilty of a misdemeanor, and upon conviction thereof, shall be imprisoned in the county jail for three months.

Section 4. All acts or parts of acts inconsistent with this act are hereby repealed.

Approved—The 1st day of June, A. D. 1883.

ROBT. E. PATTISON.

AN ACT

To provide payment to the miner for all clean coal mined by him.

Section 1. Be it enacted, &c., That from and after the passage of this act all individuals, firms and corporations engaged in mining coal in this Commonwealth, who, instead of dumping all the cars that come from the mine into a breaker or chutes, shall switch out one or more of the cars for the purpose of examining them, and determining the actual amount of slate or refuse, by removing said slate or refuse from the car, and who shall, after so doing, willfully neglect to allow the miner in full for all clean coal left after the refuse, dirt or slate is taken out, at the same rate paid at the mine for clean coal less the actual expense of removing said slate or refuse, he shall be deemed guilty of a misdemeanor.

Section 2. That any individual, firm or corporation as aforesaid, violating the provisions of this act, upon suit being brought and conviction had, shall be sentenced by the court to pay a fine of not more than one hundred dollars, and to make restitution by paying to the miner the amount to which, under this act, he would be entitled for the coal mined by him, and for which he was not paid.

Approved—The 13th day of June, A. D. 1883.

ROBT. E. PATTISON

AN ACT

To provide for the recovery of the bodies of workmen enclosed, buried or entombed in coal mines.

Section 1. Be it enacted, &c., That whenever any workman or workmen shall heretofore have been, or shall hereafter be enclosed, entombed or buried in any coal mine in this Commonwealth, it shall be the duty of the court, sitting in equity, in the county wherein such workman or workmen are enclosed, entombed or buried, upon the petition of any of the relatives of those enclosed, entombed or buried, to make an order of court for the petitioner to take testimony in order that the court may ascertain whether such workman or workmen, or the body or bodies of such workman or workmen, can be recovered or taken out of said mine.

If, after full hearing, it shall appear to the court that such undertaking is feasible or practicable, said court may forthwith issue a peremptory mandamus to the owner or owners, lessee or lessees, operator or operators of such coal company, to forthwith proceed to work for and recover and take out the body or bodies of such work-

man or workmen, and said court shall have full authority to enforce such peremptory mandamus in the manner already provided for the enforcement of such process.

Approved—The 9th day of May, A. D. 1889.

JAMES A. BEAVER.

AN ACT

To provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania and for the protection and preservation of property connected therewith.

ARTICLE I.

Section 1. Be it enacted, &c., That this act shall apply to every anthracite coal mine or colliery in the Commonwealth, provided the said mine or colliery employs more than ten (10) persons.

ARTICLE II.

Inspectors and Inspection Districts.

Section 1. The counties of Susquehanna, Wayne, Luzerne, Lackawanna, Carbon, Schuylkill, Northumberland, Columbia, Lebanon and Dauphin, or so much of them as may be included under the provisions of this act, shall be divided into eight (8) inspection districts as follows:

Section 2. First. All that portion of the Lackawanna coal field lying northeast of East and West Market streets in the city of Scranton, and of Slocum and Drinker streets in the borough of Dunmore, including the coal fields of Susquehanna and Wayne counties.

Second. That portion of the Lackawanna coal field in Lackawanna county lying southwest of East and West Market streets in the city of Scranton, and west of Slocum and Drinker streets in the borough of Dunmore.

Third. That portion of the Wyoming coal fields situated in Luzerne county, east of and including Plains and Kingston townships.

Fourth. The remaining portion of the Wyoming coal field west of Plains and Kingston townships, including the city of Wilkes-Barre and the boroughs of Kingston and Edwardsville.

Fifth. That part of Luzerne county lying south of the Wyoming coal field together with Carbon county.

Sixth. That part of the Schuylkill coal field in Schuylkill county lying north of the Broad Mountain and east of a meridian line through the centre of the borough of Girardville.

Seventh. That part of the Schuylkill coal field in Schuylkill county lying north of the Broad Mountain and west of a meridian line through

the centre of the borough of Girardville, together with Columbia, Northumberland and Dauphin counties.

Eighth. All that part of the Schuylkill coal field in Schuylkill county lying south of the Mahanoy Valley, and the county of Lebanon.

Section 3. In order to fill any vacancy that may occur in the office of Inspector of Mines by reason of expiration of term, resignation, removal for cause or from any other reason whatever, the judges of the court of Lackawanna county shall appoint an examining board for the counties of Susquehanna, Wayne and Lackawanna, and the judges of the court of Luzerne county shall appoint an examining board for the counties of Sullivan, Carbon and Luzerne, and the judges of Schuylkill county shall appoint an examining board for the counties of Schuylkill, Northumberland, Lebanon, Columbia and Dauphin.

Section 4. The said Board of Examiners shall be composed of three reputable coal miners in actual practice and two reputable mining engineers, all of whom shall be appointed at the first term of court in each year, to hold their places during the year. Any vacancies that may occur in the Board of Examiners shall be filled by the court as they occur. The said Board of Examiners shall be permitted to engage the services of a clerk, and they, together with the clerk, shall each receive the sum of five dollars per day for every day they are actually engaged in the discharge of their duties under this appointment, and mileage at the rate of six cents per mile from their home to the place of meeting and return by the nearest practicable railway route.

Section 5. Whenever candidates for the office of inspector are to be examined, the said examiner shall give public notice of the fact in not more than five papers published in the inspection district and at least two weeks before the meeting, specifying the time and place where such meeting shall be held. The said examiners shall be sworn to a faithful discharge of their duties, and four of them shall agree in their recommendation of all candidates to the Governor who have answered ninety per centum of the questions; the names of the applicants, the questions asked and answered thereto shall be sent to the Secretary of the Commonwealth, and published in at least two local papers, daily or weekly, and shall recommend only such applicants as they find qualified for the office.

Should the Board of Examiners not be able to agree in their selection and recommendation of a candidate, the judges of the court of common pleas shall dissolve the said board and appoint a new board of like qualifications and powers.

Upon the recommendation of the Board of Examiners as aforesaid, the Governor shall appoint such person or persons to fill the office

of inspector of mines under this act, and shall issue to him a commission for the term of five years, subject, however, to removal for neglect of duty or malfeasance in office as hereinafter provided for.

Section 6. The person so appointed must be a citizen of Pennsylvania and shall have attained the age of thirty years. He must have a knowledge of the different systems of working coal mines, and he must produce satisfactory evidence to the Board of Examiners of having had at least five (5) years' practical experience in anthracite coal mines of Pennsylvania. He must have had experience in coal mines where noxious and explosive gases are evolved.

Before entering upon the duties of his office he shall take an oath or affirmation before an officer properly qualified to administer the same, that he will perform his duties with fidelity and impartiality; which oath or affirmation shall be filed in the office of the prothonotary of the county. He shall also provide himself with the most modern instruments and appliances for carrying out the intentions of this act.

Section 7. The salary of each of the said inspectors shall be three thousand dollars per annum, which salary, together with the expense incurred in carrying into effect the provisions of this act, shall be paid by the State Treasurer out of the Treasury of the Commonwealth upon the warrant of the Auditor General.

Section 8. In case the inspector becomes incapacitated to perform the duties of his office, for a longer period than two weeks, it shall be the duty of the judges of the court of common pleas to deputize some competent person recommended by the Board of Examiners to fill the office of inspector until the said inspector shall be able to fulfill the duties of his office and the person so appointed shall be paid in the same manner as is provided for the Inspector of Mines.

Section 9. Each of the said inspectors shall reside in the district for which he is appointed, and shall give his whole time and attention to the duties of the office. He shall examine all the collieries in his district as often as his duties will permit or as often as the exigencies of the case or the condition of the mines require it; see that every necessary precaution is taken to secure the safety of the workmen and that the provisions of this act are observed and obeyed; attend every inquest held by the coroner, or his deputy, upon the bodies of persons killed in or about the collieries in his district; visit the scene of the accident for the purpose of making an examination into the particulars of the same whenever loss of life or serious personal injury occurs as elsewhere herein provided for, and make an annual report of his proceedings to the Secretary of Internal Affairs of the Commonwealth at the close of every year, enumerating all the accidents in and about the collieries of his district, marking in tabular form those accidents causing death or serious personal injury,

the condition of the workings of the said mines with regard to the safety of the workmen therein and the ventilation thereof, and the result of his labors generally shall be fully set forth.

Section 10. The Board of Examiners, each for its respective district as hereinbefore provided for, in order to divide more equitably among the several mine inspectors the labor to be performed and the territory to be covered by them in the performance of the duties of the office, may, at any time when they shall deem it desirable or necessary, readjust the several districts by the creation of new boundary lines, thereby adding to or taking from, as the case may be, the districts as at present bounded and described, if the court having jurisdiction approve the same.

And in case it shall be deemed desirable or necessary to readjust any contiguous district, comprised by more than one judicial district, by the creation of new boundary lines, then in such case the examining boards of the territory affected or requiring such adjustment, shall, in joint session, make such change or readjustment as they shall jointly agree upon, if the nearest court having jurisdiction to the territory affected to whom the said joint examining boards shall submit the matter, shall approve the same.

Section 11. The mine inspector shall have the right, and it is hereby made his duty to enter, inspect and examine any mine or colliery in his district and the workings and machinery belonging thereto, at all reasonable times, either by day or night, but not so as to impede or obstruct the working of the colliery, and shall have power to take one or more of his fellow inspectors into or around any mine or colliery in the district for which he is appointed, for the purpose of consultation or examination.

He shall also have the right and it is hereby made his duty, to make inquiry into the condition of such mine or colliery workings, machinery, ventilation, drainage, method of lighting or using lights and into all matters and things connected with or relating to, as well as to make suggestions providing for the health and safety of persons employed in or about the same, and especially to make inquiry whether the provisions of this act have been complied with.

The owner, operator or superintendent of such mine or colliery is hereby required to furnish the means necessary for such entry, inspection, examination, inquiry and exit.

The inspector shall make a record of the visit, noting the time and material circumstances of the inspection.

Section 12. No person who shall act or practice as a land agent or as the manager or agent of any coal mine or colliery, who is pecuniarily interested in operating any coal mine or colliery in his district, shall, at the same time, hold the office of inspector of mines under this act.

Section 13. Whenever a petition signed by fifteen or more reputable coal operators or miners, or both, setting forth that any inspector of mines neglects his duties, or is incompetent, or is guilty of malfeasance in office, it shall be the duty of the court of common pleas of the proper county to issue a citation in the name of the Commonwealth to the said inspector to appear at not less than five days' notice, on a day fixed, before said court and the court shall then proceed to inquire into and investigate the allegations of the petitioners. If the court find that said inspector is neglectful of his duties or that he is incompetent to perform the duties of the office, for any cause that existed previous to his appointment or that has arisen since his appointment, or that he is guilty of malfeasance in office, the court shall certify the same to the Governor of the Commonwealth, who shall declare the office of inspector for the district vacant and proceed, in compliance with the provisions of this act, to appoint a properly qualified person to fill the office.

The cost of said investigation shall be borne by the removed inspector; but if the allegations in the petition are not sustained the costs shall be paid by the petitioners.

Section 14. The maps and plans of the mines and the records thereof, together with all the papers relating thereto, shall be kept by the inspector, properly arranged and preserved, in a convenient place in the district for which each inspector has been appointed, and shall be transferred by him with any other property of the Commonwealth that may be in his possession, to his successor in office.

Section 15. The persons who, at the time this act goes into effect, are acting as inspectors of mines under the acts hereby repealed shall continue to act in the same manner as if they had been appointed under this act, and until the term for which they were appointed has expired.

ARTICLE III.

Surveys, Maps and Plans.

Section 1. The owner, operator or superintendent of every coal mine or colliery shall make, or cause to be made, an accurate map or plan of the workings or excavations of such coal mine or colliery, on a scale of one hundred feet to the inch, which map or plan shall exhibit the workings or excavations in each and every seam of coal and the tunnels and passages connecting with such workings or excavations. It shall state in degrees the general inclination of the strata with any material deflection therein in said workings or excavations, and shall also state the tidal elevations of the bottom of each and every shaft, slope, tunnel and gangway, and of any other point in the mine or on the surface where such elevation shall be deemed necessary by the inspector. The map or plan shall show the number of the last survey station and date of each survey on the

gangways or the most advanced workings. It shall also accurately show the boundary lines of the lands of the said coal mine or colliery and the proximity of the workings thereto, and in case any mine contains any water dammed up in any part thereof, it shall be the duty of the owner, operator or superintendent to cause the true location of the said dam to be accurately marked on said map or plan, together with the tidal elevation, inclination of strata and area of said workings containing water, and whenever any workings or excavations is approaching the workings where such dam or water is contained or situated, the owner, operator or superintendent shall notify the inspector of the same without delay.

A true copy of which map or plan the said owner, operator or superintendent shall deposit with the inspector of mines for the district in which the said coal mine or colliery is situated, showing the workings of each seam, if so desired by the inspector, on a separate sheet of tracing muslin. One copy of the said map or plan shall be kept at the colliery.

Section 2. The said owner, operator or superintendent shall, as often as once in every six months place, or cause to be placed, on the said Inspector's map or plan of said coal mine or colliery, the plan of the extensions made in such coal mine or colliery during the preceding six months. The said extensions shall be placed on the inspector's map and the map returned to the inspector within two months from the date of the last survey.

Section 3. When any coal mine or colliery is worked out preparatory to being abandoned, or when any lift thereof is about to be abandoned, the owner, operator or superintendent of such coal mine or colliery shall have the maps or plans thereof extended to include all excavations, as far as practicable, and such portions thereof as have been worked to the boundary lines of adjoining properties; or any part or parts of the workings of which is intended to be allowed to fill with water, must be surveyed in duplicate and such surveys must practically agree, and certified copies be filed with the inspector of the district in which the mines are situated.

Section 4. Whenever the owner, operator or superintendent of any coal mine or colliery shall neglect or refuse, or from any cause not satisfactory to the inspector, shall fail, for a period of three months, to furnish to the inspector the map or plan of said colliery or of the extensions thereto, as provided for in this act, the inspector is hereby authorized to cause an accurate map or plan of such coal mine or colliery to be made at the expense of the owner thereof, which cost shall be recoverable from said owner as other debts are by law recoverable.

Section 5. If the inspector finds or has reason to believe, that any map or plan of any coal mine or colliery, furnished under the provisions of this act, is materially inaccurate, it shall be his duty to make

application to the court of common pleas of the county in which such colliery is situate for an order to have an accurate map or plan of said colliery prepared, and if such survey shall prove that the map furnished was materially inaccurate or imperfect, such owner, operator or superintendent shall be liable for the expense incurred in making the same.

Section 6. If it shall be found that the map or plan furnished by the owner, operator or superintendent was not materially inaccurate or imperfect, the Commonwealth shall be held liable for the expense incurred in making such test survey.

Section 7. If it shall be shown that the said owner, operator or superintendent has knowingly or designedly caused or allowed such map or plan, when furnished, to be incorrect or false, such owner, operator or superintendent thus offending, shall be guilty of a misdemeanor and upon conviction thereof, shall be punished by a fine not exceeding five hundred dollars or imprisonment not exceeding three months, at the discretion of the court.

Section 8. The maps or plans of the several coal mines or collieries in each district and which are placed in the custody of the inspector, shall be the property of the Commonwealth, and shall remain in the care of the inspector of the district in which the said collieries are situated to be transferred by him to his successor in office; and in no case shall a copy of the same be made without the consent of the owner, operator or superintendent.

Section 9. The inspector's map or plan of any particular colliery shall be open for inspection, in the presence of the inspector, to any miner or miners of that colliery, whenever said miner or miners shall have cause to fear that his or their working place or places is becoming dangerous, by reason of its proximity to other workings which may be supposed to contain water or dangerous gases. Said map shall also be open to the inspection and examination of any citizen interested, during business hours.

Section 10. It shall be obligatory on the owners of adjoining coal properties to leave, or cause to be left, a pillar of coal in each seam or vein of coal worked by them, along the line of adjoining property, of such width, that taken in connection with the pillar to be left by the adjoining property owner, will be a sufficient barrier for the safety of the employes of either mine in case the other should be abandoned and allowed to fill with water; such width of pillar to be determined by the engineers of the adjoining property owners together with the inspector of the district in which the mine is situated, and the surveys of the face of the workings along such pillar shall be made in duplicate and must practically agree. A copy of such duplicate surveys, certified to, must be filed with the owners of the adjoining properties and with the inspector of the district in which the mine or property is situated.

ARTICLE IV.

Shafts, Slopes, Openings and Outlets.

Section 1. It shall not be lawful for the owner, operator or superintendent of any mine to employ any person or persons in such mine or permit any person or persons to be in such mine for the purpose of working therein, unless they are in connection with every seam or stratum of coal; and from every lift thereof, worked in such mine, not less than two openings or outlets, separated by a strata of not less than sixty (60) feet in breadth underground, and one hundred and fifty (150) feet in breadth at the surface, at which openings or outlets safe and distinct means of ingress and egress are at all times available for the person or persons employed in the said mine, but it shall not be necessary for the said two openings to belong to the same mine if the persons employed therein have safe, ready and available means of ingress and egress by not less than two openings. This section shall not apply to opening a new mine or to opening any new lift of a mine while being worked for the purpose of making communication between said two outlets, so long as not more than twenty persons are employed at any one time in such mine or new lift of a mine; neither shall it apply to any mine or part of a mine in which the second outlet has been rendered unavailable by reason of the final robbing of pillars previous to abandonment, so long as not more than twenty persons are employed therein at any one time. The cage or cages and other means of egress shall, at all times, be available for the persons employed where there is no second outlet.

Section 2. The owner, operator or superintendent of any mine to which there is only one shaft, slope or outlet may petition the court of common pleas in and for the county in which such mine is situated, which said court is hereby empowered to act in the premises, setting forth that, in consequence of intervening lands between the working of his mine and the most practicable point, or the only practicable point, as the case may be, at which to make or bring to the surface from the working of his mine, he is unable to make an additional shaft, slope or outlet in accordance with the requirements of this act, whereupon the court may make an order of reference and appoint three disinterested persons, residents of the county, viewers, one or more of whom shall be a practical mining engineer, all of whom, after being sworn to a faithful discharge of their duties, shall view and examine the premises and determine as to whether the owner shall have the privilege of making an additional outlet through or upon any intervening lands, as the case may require, and report in writing to the court, which report shall be entered and filed of record. If the finding of the viewers, or any two of them, is in favor of the owner of such coal mine or colliery,

he may make an additional shaft, slope or outlet under, through or upon intervening lands, as may be determined upon and provided for by the award. If the finding of the viewers is against the owner, or if no award be made by reason of any default or neglect on the part of the owner, he shall be bound to comply with the provisions of this act in the same manner as if this section had not been enacted. In case the said owner, operator or superintendent desires to, and claims that he ought to make an additional opening under, through or upon any adjoining or intervening lands, to meet the requirements of this act, for the ingress and egress of the men employed in his or their mine, he or they shall make a statement of the facts in the petition, with a survey, setting forth the point of commencement and the point of termination of the proposed outlet which he or they, their engineers, agents or employes may enter upon said intervening lands and survey and mark, as he or they shall find it proper to adopt for such additional outlet, doing as little damage as possible to the property explored; and the viewers shall state in their report what damage will be sustained by the owner or owners of the intervening lands by the opening, constructing and using of the outlet, and if the report is not appealed from, it shall be confirmed or rejected by said court as to right and justice shall appertain, and any further and all proceedings in relation thereto shall be in conformity with like proceedings as in the case of a lateral railroad across or under intervening lands, under the act in relation to lateral railroads, approved the fifth day of May, Anno Domini one thousand eight hundred and thirty-two, and the supplements thereto, so far as the provisions of the same are applicable hereto; and the notices to the owner of intervening lands, of the intention to apply for the privilege of making an outlet and meeting of the viewers shall be given, and the costs of the case shall be paid as provided in the said act of fifth day of May, Anno Domini one thousand eight hundred and thirty-two, and the supplements thereto.

Section 3. The escapements, shafts or slopes shall be fitted with safe and available appliances by which the persons employed in the mine may readily escape in case an accident occurs deranging the hoisting machinery at the main outlets.

Section 4. In slopes where the angle of inclination is fifteen degrees or less there must be provided a separate traveling way, which shall be maintained in a safe condition for travel and kept free from steam and dangerous gases.

Section 5. No inflammable structure, other than a frame to sustain pulleys or sheaves, shall be erected over the entrance of any opening connecting the surface with the underground workings of any mine, and no "breaker" or other inflammable structure for the preparation or storage of coal shall be erected nearer than two hun-

dred (200) feet to any such opening, but this act shall not be construed to prohibit the erection of a fan drift for the purpose of ventilation, or of a trestle for the transportation of cars from any slope to such breaker or structure, neither shall it apply to any shaft or slope until the work of development and shipment of coal has commenced: Provided, That this section shall not apply to breakers that are now erected.

Section 6. The top of each shaft and also of each slope, if dangerous, or any intermediate lift thereof, shall be securely fenced off by railing or by vertical or flat gates.

Section 7. Every abandoned slope, shaft, air-hole and drift shall be properly fenced around or across its entrance.

Section 8. All underground entrances to any places not in actual course of working or extension shall be properly fenced across the whole width of such entrances, so as to prevent persons from inadvertently entering the same.

Section 9. The owner, operator or superintendent of any coal mine or colliery which is worked by shaft or slope, shall provide and maintain a suitable appliance by or through which conversation can be held by and between persons at the bottom and at the top of the shaft or slope, and also an efficient means of signaling from the bottom of such shaft or slope to the engineer in charge of the hoisting engine.

Section 10. Hand rails and efficient safety catches shall be attached to, and a sufficient cover overhead shall be provided on every cage used for lowering or hoisting persons in any shaft.

Section 11. Wherever practicable, every cage or gun-boat used for lowering or hoisting persons in any slope, shall be provided with a proper protector, so constructed that persons, while on such cage or gun-boat, shall not be struck by anything which may fall or roll down said slope.

Section 12. The main link of the chain connecting the rope to the cage, gun-boat or car in any shaft or slope, shall be made of the best quality of iron; bridle chains made of the same quality of iron shall be attached to the main link, rope or rope socket from the cross-head of the cage or gun-boat when persons are being lowered or hoisted thereon.

Section 13. The ropes, safety catches, links and chains shall be carefully examined every day they are used, by a competent person delegated for that purpose and any defects therein found, by which life or limb may be endangered, shall be immediately remedied.

Section 14. An efficient brake shall be attached to every drum that is used for lowering or raising persons or material in any mine.

Section 15. Flanges or horns of sufficient dimensions to prevent the rope from slipping off the said drum shall be provided and properly attached to the drum, and all machines used for lowering or

hoisting persons in mines shall be provided with an indicator to show the position of the cage, car or gun-boat in the shaft or slope.

Section 16. Over all shafts which are being sunk or shall hereafter be sunk, a safe and substantial structure shall be erected to sustain the sheaves or pulleys, at a height of not less than twenty (20) feet above the tipping-place, and the top of such shaft shall be arranged in such manner that no material can fall into the shaft while the bucket is being emptied.

Section 17. The said structure shall be erected as soon as a substantial foundation is obtained, and in no case shall a shaft be sunk to a depth of more than fifty (50) feet without such structure.

Section 18. If provision is made to land the bucket upon truck, the said truck shall be constructed in such manner that material cannot fall into the shaft.

Section 19. All rock and coal from shafts as they are being sunk, shall not be raised except in a bucket or on a cage, and such bucket or cage must be connected to the rope or chain by a safety hook, clevis or other safe attachment.

Section 20. Such shafts shall be provided with guides and guide attachments applied in such manner as to prevent the bucket from swinging while descending or ascending therein, and such guides and guide attachments shall be maintained at a distance of not more than seventy-five (75) feet from the bottom of such shaft, until its sinking shall have been completed, but this section shall not apply to shafts one hundred (100) feet or less in depth.

Section 21. Where the strata are not safe every shaft shall be securely cased, lined or otherwise made secure.

Section 22. The following rules shall be observed, as far as practicable, in every shaft to which this act applies.

First. After each and every blast the chargeman must see that all loose material is swept down from the timbers before the workmen descend to their work.

Second. After a suspension of work, and also after firing a blast in a shaft where explosive gases are evolved, the person in charge must have the said shaft examined and tested with a safety lamp before the workmen are allowed to descend.

Third. Not more than four persons shall be lowered or hoisted in any shaft on a bucket at the same time, and no person shall ride on a loaded bucket.

Fourth. Whenever persons are employed on platforms in shafts the person in charge must see that the said platforms are properly and safely constructed.

Fifth. While shafts are being sunk all blasts therein must be exploded by an electric battery.

Sixth. Every person who fails to comply with or who violates the provisions of this article shall be guilty of an offense against this act.

ARTICLE V.

Boilers and Connections, Machinery, &c.

Section 1. All boilers used for generating steam in and about mines and collieries shall be kept in good order, and the owner, operator or superintendent shall have them examined and inspected by a qualified person as often as once in six months, and oftener if needed. The result of such examination, under oath, shall be certified in writing to the inspector for the district within thirty (30) days thereafter.

Section 2. It shall not be lawful to place any boiler or boilers, for the purpose of generating steam, under nor nearer than one hundred (100) feet to any coal breaker or other structure in which persons are employed in the preparation of coal: Provided, That this section shall not apply to boilers or breakers already erected.

Section 3. Each nest of boilers shall be provided with a safety valve of sufficient area for the steam to escape and with weights or springs properly adjusted.

Section 4. Every boiler house shall be provided with a steam gauge properly connected with the boilers, to indicate the steam pressure, and another steam gauge shall be attached to the steam pipe in the engine house and placed in such position that the engineer or fireman can readily examine them and see what pressure is carried. Such steam gauges shall be kept in good order, tested and adjusted as often as once in every six months and their condition reported to the inspector in the same manner as the report of boiler inspection.

Section 5. All machinery used in or about the mines and collieries, and especially in breakers, such as engines, rollers, wheels, screens, shafting and belting shall be protected by covering or railing so as to prevent persons from inadvertently walking against or falling upon the same. The sides of stairs, trestles and dangerous plank walks in and around the collieries shall be provided with hand and guard railing to prevent persons from falling over their sides. This section shall not forbid the temporary removal of a fence, guard rail or covering for the purpose of repairs or other operations, if proper precautions are used, and the fence, guard rail or covering is replaced immediately thereafter.

Section 6. A sober and competent person, not under eighteen (18) years of age, shall be engaged to run the breaker engine and he shall attend to said engine while the machinery is in motion.

Section 7. A signal apparatus shall be established at important points in every breaker so that in case of an accident the engineer can be promptly notified to stop the machinery.

Section 8. No person under fifteen (15) years of age shall be appointed to oil the machinery, and no person shall oil dangerous parts of such machinery while it is in motion.

Section 9. No person shall play with, loiter around or interfere with any machinery in or about any mine or colliery.

Section 10. Failure to comply with the provisions of this article shall be deemed an offense against this act.

ARTICLE VI.

Wash Houses.

Section 1. It shall be the duty of the owner, operator or superintendent of each mine or colliery, at the request in writing of twenty or more men employed in any of the mines, to provide a suitable building, not an engine or boiler house, which shall be convenient to the principal entrance of such mine, for the use of the persons employed therein for the purpose of washing themselves and changing their clothes when entering the mine and returning therefrom. The said building shall be maintained in good order, be properly lighted and heated, and supplied with pure cold and warm water, and shall be provided with facilities for persons to wash. If any person or persons shall neglect or fail to comply with the provisions of this article, or maliciously injure or destroy, or cause to be injured or destroyed, the said building, or any part thereof, or any of the appliances or fittings used for supplying light, heat and water therein, or doing any act tending to the injury or destruction thereof, he or they shall be deemed guilty of an offense against this act.

ARTICLE VII.

Ambulances and Stretchers.

Section 1. The owner, operator or superintendent of every mine or colliery, except as hereinafter provided, shall provide and keep at such mine or colliery an ambulance and also at least two (2) stretchers, for the purpose of conveying to their places of abode, any person or persons who may be injured while in the discharge of his or their work at such mine or colliery.

Section 2. The said ambulance shall be constructed upon good, substantial and easy springs. It shall be covered and closed and shall have windows on the sides or ends. It shall be of sufficient size to convey at least two (2) injured persons with two (2) attendants at one time, and shall be provided with spring mattresses or other comfortable bedding to be placed on roller frames, together with sufficient covering and protection and convenient movement of the injured. It shall also be provided with seats for the attendants. The stretchers shall be constructed of such material and in such manner as to afford the greatest ease and comfort in the carriage of the injured person.

Section 3. Whenever any person or persons employed in or about a mine or colliery shall receive such injury by accident or otherwise, while so employed, as would render him or them unable to walk to

his or their place of abode, the owner, operator or superintendent of such mine or colliery shall immediately cause such person or persons to be removed to his or their place of abode or to an hospital as the case may require.

Section 4. It is provided, however, that the owner, operator or superintendent of any mine or colliery shall be excepted from the requirements of an ambulance, as aforesaid, if the places of abode of all the workmen at such mine or colliery be within a radius of a half mile from the principal entrance to such mine.

Section 5. It is provided further, that where two or more mines or collieries are located within one mile of each other, or the ambulance is located within one mile of each colliery, but one ambulance, as aforesaid, shall be required, if the said mines or collieries have ready and quick means of communication, one with the other, by telegraph or telephone.

Section 6. An ambulance, as aforesaid, shall not be required at any mine or colliery at which less than twenty (20) persons are employed.

Section 7. In case the distance from any mine or colliery to the place of abode of the person injured, is such as to permit his conveyance to his home or to an hospital more quickly and conveniently by railway, such mode of conveyance shall be permitted, but in such case the conveyance must be under cover and the comfort of the injured person must be provided for.

ARTICLE VIII.

Certified Mine Foremen.

Section 1. It shall not be lawful, neither shall it be permitted, for any person or persons to act as mine foreman or assistant mine foreman of any coal mines or colliery, unless they are registered as a holder of a certificate of qualification or service under this act.

Section 2. Certificates of qualification to mine foremen and assistant mine foremen shall be granted by the Secretary of Internal Affairs to every applicant who may be reported by the examiners, as hereinafter provided, as having passed a satisfactory examination and as having given satisfactory evidence of at least five years' practical experience as a miner, and of good conduct, capability and sobriety.

The certificate shall be in manner and form as shall be prescribed by the Secretary of Internal Affairs, and a record of all certificates issued shall be kept in his department.

Section 3. For the purpose of examination of candidates for such certificates, a board of examiners shall be appointed in each of the inspection districts provided for by this act. The said board shall consist of the district inspector of mines, two (2) practical miners and one owner, operator or superintendent of a mine. The said inspector shall act ex-officio, and the said engineer and owner, operator

or superintendent shall be appointed in like manner and at the same time as the boards of examiners for candidates for mine inspectorship under this act are now appointed. The said board shall act as such for the period of one year from the date of their appointment. Meetings of the board may be held at any time, and they may make such rules and conduct such examinations as in their judgment may seem proper for the purpose of such examinations. The said board shall report their action to the Secretary of Internal Affairs, and at least three (3) of the members thereof shall certify to the qualification of each candidate who has passed such examination. The traveling expenses of the members of such board to and from their place of meeting, together with the sum of five dollars per day each to the said two (2) practical miners and owner, operator or superintendent, members of each board, for each day they are actually engaged therein, not exceeding ten (10) days in all, during the year, shall be paid by the Commonwealth on an order of the Auditor General drawn on the State Treasurer upon the certificate of the mine inspector, member of such board.

Section 4. Certificates of qualification to mine foreman and assistant mine foreman shall be granted by the Secretary of Internal Affairs to every applicant who may be reported by the examiners, as heretofore provided, as having passed a satisfactory examination and as having given satisfactory evidence of at least five (5) years' practical experience as a miner, and of good conduct, capability and sobriety. The certificate shall be in manner and form as shall be prescribed by the Secretary of Internal Affairs, and a record of all certificates issued shall be kept in the department. Certificates of qualification and certificate of service shall contain the full name, age and place of birth of the applicant, as also the length and nature of his previous service in or about the mines.

Section 5. Before certificate as aforesaid shall be granted applicants for same shall pay to the Secretary of Internal Affairs the following fee, namely:

For examination, one dollar; for registration of certificate, one dollar, for certificate, one dollar. All fees so received shall be covered into the treasury of the Commonwealth.

Section 6. No mines shall be operated for a longer period than thirty days without the supervision of a mine foreman. In case any mine is worked a longer period than thirty (30) days without such certified mine foreman, the owner, operator or superintendent thereof shall be subject to a penalty of twenty dollars per day for each day over the said thirty (30) days during which the said mine is operated.

Section 7. In case of the loss or destruction of a certificate the Secretary of Internal Affairs may supply a copy thereof to the person losing the same upon the payment of the sum of fifty (50) cents: Pro-

vided, It shall be shown to the satisfaction of the Secretary that the loss has actually occurred.

Section 8. If any person or persons shall forge or counterfeit a certificate or knowingly make or cause to be made any false statement in any certificate under this act, or in any official copy of the same, or shall urge others to do so, or shall utter or use any such forged or false certificate, or unofficial copy thereof, or shall make, give, utter, produce or make use of any false declaration, representation or statement in any such certificate or copy thereof, or any document containing the same, he or they shall be guilty of a misdemeanor, and upon conviction thereof, shall be fined two hundred dollars, or imprisoned for a term not exceeding one (1) year, or both, at the discretion of the court trying the case.

Section 9. And no person shall be permitted to act as fire boss in any coal mine or colliery, except he has had five (5) years' practical experience in mines as a miner, three (3) of which he shall have as a miner wherein noxious and explosive gases are evolved, and the said fire boss shall certify to the same before entering upon his duties, before an alderman, justice of the peace or other person authorized to administer oaths, and a copy of said deposition shall be filed with the district inspector of mines wherein said person is employed.

ARTICLE IX.

Employment of Boys and Females.

Section 1. No boy under the age of fourteen (14) years, and no woman or girl of any age, shall be employed or permitted to be in any mine for the purpose of employment therein. Nor shall a boy under the age of twelve years or a woman or girl of any age, be employed or permitted to be in or about the outside structures or workings of a colliery for the purpose of employment, but it is provided, however, that this prohibition shall not affect the employment of a boy or female of suitable age in an office or in the performance of clerical work at a colliery.

Section 2. When an employer is in doubt as to the age of any boy or youth applying for employment in or about a mine or colliery, he shall demand and receive proof of the said lawful employment age of such boy or youth, by certificate from the parent or guardian, before said boy or youth shall be employed.

Section 3. If any person or persons contravene or fail to comply with the provisions of this act in respect to the employment of boys, young male persons or females, or if he or they shall connive with or permit others to contravene or fail to comply with said provisions, or if a parent or guardian of a boy or young male person make or give a false certificate of the age of such boy or young male person, or knowingly do or perform any other act for the purpose of secur-

ing employment for a boy or young male person under the lawful employment age and in contravention of the provisions of this act, he or they shall be guilty of an offense against this act.

ARTICLE X.

Ventilation.

Section 1. The owner, operator or superintendent of every mine shall provide and maintain a constant and adequate supply of pure air for the same, as hereinafter provided.

Section 2. It shall not be lawful to use a furnace for the purpose of ventilating any mine wherein explosive gases are generated.

Section 3. The minimum quantity of air thus produced, shall not be less than two hundred (200) cubic feet per minute for each and every person employed in any mine, and as much more as the circumstances may require.

Section 4. The ventilating currents shall be conducted and circulated to and along the face of each and every working place throughout the entire mine, in sufficient quantities to dilute, render harmless and sweep away smoke and noxious or dangerous gases, to such an extent that all working places and traveling roads shall be in a safe and fit state to work and travel therein.

Section 5. All worked out or abandoned parts of a mine in operation, so far as practicable, shall be kept free of dangerous bodies of gases or water, and if found impracticable to keep the entire mine free from an accumulation of gases or water, the mine inspector must be immediately notified.

Section 6. Every mine employing more than seventy-five (75) persons must be divided into two or more districts. Each district shall be provided with a separate split of pure air and the ventilation shall be so arranged, that not more than seventy-five persons shall be employed at the same time in any one current or split of air.

The inlet and return air passages for any particular district must be separated by a pillar of coal or stone, if the thickness and dip of the vein will permit, except where it is necessary to cut through said dividing pillar for the purposes of ventilation, traffic or drainage.

Section 7. All air passages shall be of sufficient area to allow the free passage of not less than two hundred (200) cubic feet of air per minute for every person working therein; and in no case, in mines generating explosive gases, shall the velocity exceed four hundred and fifty (450) lineal feet per minute, in any opening through which the air currents pass, if gauze safety lamps are used, except in the main inlet or outlet air ways.

Section 8. All cross-cuts connecting the main inlet and outlet air passages of every district, when it becomes necessary to close them permanently, shall be substantially closed with brick or other

suitable building material, laid in mortar or cement whenever practicable, but in no case shall said air stoppings be constructed of plank except for temporary purposes.

Section 9. All doors used in assisting or in any way affecting the ventilation shall be so hung and adjusted that they will close automatically.

Section 10. All main doors shall have an attendant whose constant duty it shall be to open them for transportation and travel and prevent them from standing open longer than is necessary for persons or cars to pass through.

Section 11. All main doors shall be so placed that when one door is open, another, which has the same effect upon the same current, shall be and remain closed and thus prevent any temporary stoppage of the air current.

Section 12. An extra main door shall be so placed and kept standing open, so as to be out of reach of accident, and so fixed that it can be at once closed in the event of an accident to the doors in use.

Section 13. The frame work of such main doors shall be substantially secured in stone or brick, laid in mortar or cement unless otherwise permitted in writing by the inspector.

Section 14. All permanent air bridges shall be substantially built of such material and such strength as the circumstances may require.

Section 15. The quantities of air in circulation shall be ascertained with an anemometer or other efficient instrument; such measurements shall be made by the inside foreman or his assistant once a week at the inlet and outlet airways, also at or near the face of each gangway and at the nearest cross-heading to the face of each gangway and at the nearest cross-heading to the face of the inside and outside chamber or breast where men are employed, and the headings shall not be driven more than sixty (60) feet from the face of each chamber or breast and shall be entered in the colliery report book.

Section 16. A report of these air measurements shall be sent to the inspector before the twelfth day of each month, for the preceding month, together with a statement of the number of persons employed in each district.

Section 17. All ventilators used at mines shall be provided with recording instruments by which the speed of the ventilators or the ventilating pressure shall be registered for each hour, and such data shall be preserved at the colliery for future reference, for a period of three months.

Section 18. Any person or persons who shall neglect or fail to comply with the provisions of this article, or who shall make any false report in regard to air measurements, shall be guilty of an offense against this act.

ARTICLE XI.

Props and Timbers.

Section 1. It shall be the duty of the owner, operator, superintendent or mine foreman of every mine to furnish to the miners all props, ties, rails and timbers necessary for the safe mining of coal and for the protection of the lives of the workmen. Such props, ties, rails and timbers shall be suitably prepared and shall be delivered to the workmen as near to their working places as they can be conveyed in ordinary mine cars, free of charge.

Section 2. Every workman in want of props, ties, rails or timbers shall notify the mine foreman or his assistant of the fact at least one day in advance, giving the length of the props or timber required; and in case of danger from loose roof or sides, he shall not continue to cut or load coal until the said props and timber have been properly furnished and the place made secure.

Section 3. A failure to comply with the provisions of this article shall be deemed an offense against this act, and shall be taken to be negligence per se on the part of the owner, operator, superintendent or mine foreman, as the case may be, of such mine, in action for the recovery of damages for accidents resulting from the insufficient propping of such mine, through failure to furnish the necessary props or timbers.

ARTICLE XII.

General Rules.

The following general rules shall be observed in every mine to which this act applies:

Rule 1. The owner, operator or superintendent of a mine or colliery shall use every precaution to ensure the safety of the workmen in all cases, whether provided for in this act or not, and he shall place the underground workings thereof, and all that is related to the same, under the charge and daily supervision of a competent person who shall be called "mine foreman."

Rule 2. Whenever a mine foreman cannot personally carry out the provisions of this act so far as they pertain to him, the owner, operator or superintendent shall authorize him to employ a sufficient number of competent persons to act as his assistants, who shall be subject to his orders.

Rule 3. The mine foreman shall have charge of all matters pertaining to ventilation, and the speed of the ventilators shall be particularly under his charge and direction; and any superintendent who shall cause the mine foreman to disregard the provisions of this act shall be amenable in the same manner as the mine foreman.

Rule 4. All accessible parts of an abandoned portion of a mine in which explosive gases have been found, shall be carefully examined

by the mine foreman or his assistants at least once a week, and all danger found existing therein shall be immediately removed. A report of said examination shall be recorded in a book kept at the colliery for that purpose and signed by the person making the same.

Rule 5. In mines generating explosive gases, the mine foreman or his assistant shall make a careful examination every morning of all working places and traveling roads and all other places which might endanger the safety of the workmen, before the workmen shall enter the mine, and such examination shall be made with a safety lamp within three (3) hours at most, before time for commencing work, and a workman shall not enter the mine or his working place until the said mine or part thereof and working place are reported to be safe. Every report shall be recorded without delay in a book which shall be kept at the colliery for the purpose and shall be signed by the person making the examination.

Rule 6. The person who makes said examination shall establish proof of the same by marking plainly the date thereof at the face of each working place and all other places examined.

Rule 7. A station or stations shall be established at the entrance to each mine or different parts of each mine, as the case may require, and a workman shall not pass beyond any such station until the mine or part of the mine beyond the same has been inspected and reported to be safe. It shall be the duty of the fire boss to remain at the danger station until relieved by some person authorized by himself or the mine foreman, who shall stand guard until said mine or part of mine shall be reported safe, and he shall not let any person pass without permission from the fire boss.

Rule 8. If at any time it is found by the person for the time being in charge of the mine or any part thereof, that by reason of noxious gases prevailing in such mine or such part thereof, or of any cause whatever the mine or the said part is dangerous, every precaution shall be used to ensure the safety of the workmen; and every workman, except such persons as may be required to remove the danger, shall be withdrawn from the mine, or such part thereof as is so found dangerous, until the said mine or said part thereof is examined by a competent person and reported by him to be safe.

Rule 9. In every working approaching any place where there is likely to be accumulation of explosive gases, or in any working in which danger is imminent from explosive gases, no light or fire other than a locked safety lamp shall be allowed or used. Whenever safety lamps are required in any mine they shall be the property of the owner of said mine, and a competent person, who shall be appointed for the purpose, shall examine every safety lamp immediately before it is taken into the workings for use, and ascertain it to be clean, safe and securely locked, and safety lamps shall not be used until they

have been so examined and found safe, clean and securely locked, unless permission be first given by the mine foreman to have the lamps used unlocked.

Rule 10. No one, except a duly authorized person, shall have in his possession a key or any other contrivance for the purpose of unlocking any safety lamp in any mine where locked lamps are used. No lucifer matches or any other apparatus for striking light shall be taken into said mine or parts thereof.

Rule 11. No blast shall be fired in any mine where locked safety lamps are used except by permission of the mine foreman or his assistants, and before a blast is fired, the person in charge must examine the place and adjoining places and satisfy himself that it is safe to fire such blast before such permission is given.

Rule 12. The mine foreman or his assistant shall visit and examine every working place in the mine at least once every alternate day, while the men of such place are or should be at work, and shall direct that each and every working place is properly secured by props or timber, and that safety in all respects is assured by directing that all loose coal or rock shall be pulled down or secured, and that no person shall be permitted to work in an unsafe place unless it be for the purpose of making it secure.

Rule 13. The mine foreman, or some other competent person or persons to be designated by him, shall examine at least once every day all slopes, shafts, main roads, traveling ways, signal apparatus, pulleys and timbering and see that they are in safe and efficient working condition.

Rule 14. Any person having charge of a working place in any mine shall keep the roof and sides thereof properly secured by timber or otherwise so as to prevent such roof and sides from falling, and he shall not do any work or permit any work to be done under loose or dangerous material except for the purpose of securing the same.

Rule 15. Whenever a place is likely to contain a dangerous accumulation of water, the working approaching such place shall not not exceed twelve (12) feet in width, and there shall be constantly kept, at a distance of not less than twenty (20) feet in advance, at least one (1) bore hole near the center of the working and sufficient flank bore holes on each side.

Rule 16. No person shall ride upon or against any loaded car, cage or gunboat in any shaft, slope or plane in or about a mine or colliery.

Rule 17. Not more than ten (10) persons shall be hoisted or lowered at any one time in any shaft or slope, and whenever five persons shall arrive at the bottom of any shaft or slope in which persons are regularly hoisted or lowered they shall be furnished with an empty car or cage and be hoisted, except however, in mines where there is

provided a traveling way having an average pitch of fifteen (15) degrees or less and not more than one thousand (1,000) feet in length. This, however, shall not prohibit the hoisting or lowering of twenty (20) persons at one time on slopes where two (2) or more loaded cars are regularly hoisted: Provided, That not less than thirty (30) workmen working therein, make such request in writing, to the inspector of the district, and if, in his judgment, the hoisting appliances in every respect are of sufficient strength, he may comply with the request of the workmen.

Provided, That in any coal mine or colliery where the hoisting appliances are not of sufficient strength to hoist or lower the number of persons named, he shall have the power to reduce the number of persons to be hoisted or lowered.

Rule 18. An engineer placed in charge of an engine whereby persons are hoisted or lowered in any mine, shall be a sober and competent person of not less than twenty-one (21) years of age.

Rule 19. Every engineer shall work his engine slowly and with great care when any person is being lowered or hoisted in a shaft or slope and no one shall interfere with or intimidate him while in the discharge of his duties.

Rule 20. An engineer who has charge of the hoisting machinery by which persons are lowered or hoisted in a mine, shall be in constant attendance for that purpose during the whole time any person or persons are below ground, and he shall not allow any person or persons, except such as may be deputed by the owner, operator or superintendent, to handle or meddle with the engine under his charge or any part of its machinery.

Rule 21. When any person is about to descend or ascend a shaft or slope, the headman or footman, as the case may be, shall inform the engineer by signal or otherwise of the fact, and the engineer shall return a signal before moving or starting the engine. In the absence of a headman or footman the person or persons about to descend or ascend shall give and receive the signals in the same manner.

Rule 22. The owner, operator or superintendent of a colliery shall place a competent person to be called "outside foreman," in charge of the breaker and the outside work of such colliery and who shall direct, and as far as practicable, see that the provisions of this act are complied with in respect to the breaker, outside machinery, ropes, cages and all other things pertaining to the outside work, unless otherwise provided for in this act.

Rule 23. In all coal breakers where the coal dust is so dense as to be injurious to the health of persons employed therein, the owner, operator or superintendent of said breaker shall, upon the request of the inspector, immediately adopt measures for the removal of the dust, as far as practicable.

Rule 24. Any miner or other workman who shall discover anything wrong with the ventilating current or with the condition of the roof, side, timber or roadway, or with any other part of the mine in general, such as would lead him to suspect danger to himself or his fellow workmen or to the property of his employer, shall immediately report the same to the mine foreman or other person, for the time being in charge of that portion of the mine.

Rule 25. Any person or persons who shall knowingly or wilfully damage, or without proper authority, remove or render useless any fencing, means of signaling, apparatus, instrument or machine, or shall throw open or obstruct any airway, or open a ventilating door and not have the same closed, or enter a place in or about a mine against caution, or carry fire, open lights or matches in places where safety lamps are used, or handle without proper authority, or disturb any machinery or cars, or do any other act or thing whereby the lives or health of persons or the security of the property in or about a mine or colliery are endangered, shall be guilty of an offense against this act.

Rule 26. Gunpowder or any other explosive shall not be stored in a mine, and a workman shall not have at any time in any one place, more than one keg or box containing twenty-five (25) pounds, unless more is necessary for a person to accomplish one day's work.

Rule 27. Every person who has gunpowder or other explosive in a mine, shall keep it in a wooden or metallic box securely locked, and such box shall be kept at least ten (10) feet from the tracks in all cases where room at such a distance is available.

Rule 28. Whenever a workman shall open a box containing explosive or while in any manner handling the same, he shall first place his lamp not less than five (5) feet from such explosive and in such a position that the air current cannot convey sparks to it, and a workman shall not approach nearer than five (5) feet to an open box containing powder, with a lamp, lighted pipe or any other thing containing fire.

Rule 29. When high explosives other than gunpowder are used in any mine, the manner of storing, keeping, moving, charging and firing or in any manner using such explosives, shall be in accordance with special rules as furnished by the manufacturers of the same. The said rules shall be endorsed with his or their official signature and shall be approved by the owner, operator or superintendent of the mine in which such explosives are used.

Rule 30. In charging holes for blasting in slate or rock in any mine, no iron or steel-pointed needle shall be used, and a tight cartridge shall not be rammed into a hole in coal, slate or rock with an iron or steel tamping bar, unless the end of the tamping bar is tipped with at least six (6) inches of copper or other soft metal.

Rule 31. A charge of powder or any other explosive in slate or rock which has missed fire shall not be withdrawn or the hole reopened.

Rule 32. A miner or other person who is about to explode a blast by the use of patent or other squibs or matches, shall not shorten the match, nor saturate it with mineral oil, nor turn it down when placed in the hole, nor ignite it except at its extreme end, nor do anything tending to shorten the time the match will burn.

Rule 33. When a workman is about to fire a blast he shall be careful to notify all persons who may be in danger therefrom, and shall give sufficient alarm before and after igniting the match so that any person or persons who may be approaching shall be warned of the danger.

Rule 34. Before commencing work and also after the firing of every blast, the miner working a breast or any other place in a mine, shall enter such breast or place to examine and ascertain its condition, and his laborer or assistant shall not go to the face of such breast or place until the miner has examined the same and found it to be safe.

Rule 35. No person shall be employed to blast coal or rock unless the mine foreman is satisfied that such person is qualified, by experience and judgment, to perform the work with ordinary safety.

Rule 36. A person who is not a practical miner shall not charge or fire a blast in the absence of an experienced miner, unless he has given satisfactory evidence of his ability to do so with safety, and has obtained permission from the mine foreman or person in charge.

Rule 37. An accumulation of gas in mines shall not be removed by brushing where it is practicable to remove it by brattice.

Rule 38. When gases ignited by blast or otherwise, the person igniting the same shall immediately extinguish it, if possible, and notify the mine foreman or his assistant of the fact, and workmen must see that no gas blowers are left burning upon leaving their working places.

Rule 39. Every fireman in charge of a boiler or boilers for the generation of steam, shall keep a constant watch of the same. He shall see that the steam pressure does not at any time exceed the limit allowed by the outside foreman or superintendent. He shall frequently try the safety valve, and shall not increase the weight on the same. He shall maintain a proper depth of water in each boiler, and if anything should happen to prevent this, he shall report the same without delay to the foreman, for the time being in charge, and take such other action as may under the particular circumstances be necessary for the protection of life and preservation of property.

Rule 40. At every shaft or slope in which provision is made in this act for lowering and hoisting persons, a headman and footman

shall be designated by the superintendent or foreman to be at their proper places from the time that persons begin to descend, until all the persons who may be at the bottom of said shaft or slope when quitting work shall be hoisted. Such headman and footman shall personally attend to the signals and see that the provisions of this act, in respect to lowering and hoisting persons in shafts or slopes, shall be complied with.

Rule 41. No person, except the man giving the signal, shall jump on a car, cage or gunboat after the signal to start has been given, and if any person should enter a car, cage or gunboat in excess of the lawful number the headman or footman shall notify him of the fact and request him to get off, which request must be immediately complied with. Any violation of this rule must be reported promptly to the mine foreman.

Rule 42. An empty trip shall be hoisted in any shaft or slope where the engine has been standing idle for an hour or more, before men are hoisted or lowered in said shafts or slopes, and no person or persons shall ascend any shaft or slope when working on the night turn, until one trip shall first be hoisted therein.

Rule 43. Every passage-way used by persons in any mines and also used for transportation of coal or other material, shall be made of sufficient width to permit persons to pass moving cars with safety, but if found impracticable to make any passage-way of sufficient width, then holes of ample dimensions, and not more than one hundred and fifty (150) feet apart, shall be made on one side of said passage-way. The said passage-way and safety holes shall be kept free from obstructions and shall be well drained; the roof and sides of the same shall be made secure.

Rule 44. When locomotives are used in any mine their speed shall not exceed six (6) miles per hour, and an efficient alarm shall be provided and attached to the front end of every train of cars pushed by a locomotive in any mine or part of a mine.

Rule 45. Locomotives propelled by steam, if using fire, shall not be used in any passage-way which is also used as an in-take air-way to any mine or part of a mine where persons are employed, unless there be a sufficeient quantity of air circulating therein to maintain a healthy atmosphere.

Rule 46. No person shall couple or uncouple loaded or empty cars while the same are in motion: Provided however, That this shall not apply to the top or bottom men of slopes, planes or shafts.

Rule 47. When cars are run on gravity roads by breaks or sprags, the runner shall only ride on the rear end of the last car, and when said cars are run by sprags, a space of not less than two (2) feet from the body of the car shall be made on one or both sides of the track, wherever it may be necessary for the runner to pass along the side

of the moving car or cars, and said space or passage-way shall always be kept free from obstructions.

Rule 48. No miner or laborer shall run cars out of any breast or chamber or on any gravity road unless he is a suitable person, employed by the mine foreman for that particular work; and no person shall be employed by any mine foreman to perform such work, under the age of sixteen (16) years.

Rule 49. Safety holes shall be made at the bottom of all slopes and planes and be kept free from obstruction to enable the footman to escape readily in case of danger.

Rule 50. Safety blocks or some other device for the purpose of preventing cars from falling into a shaft or running away on a slope or plane, shall be placed at or near the head of every shaft, slope or plane, and said safety blocks or other device must be maintained in good working order.

Rule 51. No person shall travel on any gravity train while cars are being hoisted or lowered thereon. Whenever ten (10) persons arrive at the bottom or top of any plane on which it is necessary for men to travel, traffic thereon shall be suspended for a period of time long enough to permit them to reach the top or bottom of said plane.

Rule 52. No mine cars shall be used in any mine unless the bumpers are of sufficient length and width to keep the bodies of said cars separated by not less than twelve (12) inches when the cars stand on a straight level road and the bumpers touch each other.

Rule 53. It shall be the duty of the owner, operator or superintendent of any or all coal breakers, to have them properly heated in order to prevent injury to the health of persons employed therein.

Rule 54. For the purpose of making known the rules and the provisions of this act to all persons employed in or about such mine or colliery to which this act applies, an abstract of the act and rules shall be posted up in legible characters in some conspicuous place or places at or near the mine or colliery, where they may be conveniently read by the persons employed, and so often as the same becomes obliterated or destroyed the owner, operator or superintendent shall cause them to be renewed with all reasonable dispatch. Any person who pulls down, injures or defaces such abstract of the act or rules when posted up in pursuance to the provisions of this act, shall be guilty of an offense against this act.

Rule 55. No person or persons working in any coal mine or colliery shall cut any props or timbers while the same are in position to support the roof or sides. When it becomes necessary to remove any of the said props or timbers for the purpose of mining coal that may be supported by the same, to dislodge any of the said props or timbers, it must be done by blasting.

Rule 56. It shall not be lawful for any mine foreman or superintendent of any mine or colliery to employ any person who is not com-

petent to understand the regulations of any mine evolving explosive gases: Provided, That this rule will not apply to a section of mine, free from the said explosive gases.

Rule 57. Any superintendent or mine foreman who prevents the footman from giving an empty car or cage to the number of men designated in a former rule, shall, upon information by any person engaged in the mines, given the mine inspector, be fined the sum of fifty dollars for each offense.

Rule 58. Every person who fails to comply with any of the foregoing rules or any of the provisions of this article, shall be guilty of an offense against this act.

ARTICLE XIII.

Inquests.

Section 1. Whenever loss of life to a miner or other employe occurs in or about a mine or colliery, notice thereof shall be given promptly to the inspector of mines for the district in which the accident occurred, by the mine foreman or outside foreman or other person having immediate charge of the work at the time of the accident; and when death results from personal injury such notice shall be given promptly after the knowledge of death comes to the said foreman or person in charge.

Section 2. Whenever loss of life occurs or whenever the lives of persons employed in a mine or at a colliery are in danger from any accident, the inspector of mines shall visit the scene of the accident as soon as possible thereafter and offer such suggestions, as in his judgment shall be necessary, to protect the lives and secure the safety of the persons employed. In case of death from such accident, and after examination he finds it necessary that a coroner's inquest shall be held, he shall notify the coroner to hold such inquest without delay, and if no such inquest be held by the coroner within twenty-four (24) hours after such notice, the inspector shall institute a further and fuller examination of such accident, and for this purpose he shall have power to compel the attendance of witnesses at such examination and to administer oaths and affirmations to persons testifying thereat. The inspector shall make a record of all such investigations and accidents, which record shall be preserved in his office. The costs of such investigation shall be paid by the county in which the accident occurred in like manner as costs of inquests held by coroners or justices of the peace are now paid.

Section 3. An inquest held by the coroner upon the body of a person killed by explosion or other accident, shall be adjourned by the coroner if the inspector of mines be not present to watch the proceedings, and the coroner in such case shall notify the inspector, in

writing, of such adjourned inquest, and the time and place of holding the same, at least three (3) days previous thereto.

Section 4. Due notice of an intended inquest to be held by the coroner, shall be given by the coroner to the inspector, and at any such inquest the inspector shall have the right to examine witnesses.

Section 5. If, at any inquest held over the body or bodies of persons whose death was caused by an accident in or about a mine or colliery, the inspector be not present, and it is shown by the evidence given at the inquest that the accident was caused by neglect or by any defect in or about the mine or colliery, which in the judgment of the jury, requires a remedy, the coroner shall send notice in writing to said inspector of such neglect or default.

Section 6. No person who is interested personally, nor a person employed in the mine or at a colliery in or at which loss of life has occurred by accident, shall be qualified to serve on a jury empaneled on the inquest, and a constable or other officer shall not summons such a person so qualified as juror, but the coroner shall empanel a majority of the jury from miners who are qualified to judge of the nature of the accident; every person who fails to comply with the provisions of this article shall be guilty of an offense against this act.

ARTICLE XIV.

Returns, Notices, Et Cetera.

Section 1. Notices of death or serious injuries resulting from accidents in or about mines or collieries, shall be made to the inspector of mines, in writng, and shall specify the name, age and occupation of the person killed or injured, and also the nature and character of the accident and of the injury caused thereby.

Section 2. The owner, operator or superintendent of a mine or colliery, shall, without delay, give notice to the inspector of the district in which said mine or colliery is situated in any or all of the following cases:

First. Where any working is commenced for the purpose of opening a new slope or mine to which this act applies.

Second. Where any mine is abandoned or the workings thereof discontinued.

Third. Where the working of any mine is recommenced after any abandonment or discontinuance for a period exceeding three months.

Fourth. Where any new coal breaker is completed and work commenced therein for the purpose of preparing coal for market.

Fifth. Where the pillars of a mine are to be removed or robbed.

Sixth. Where a squeeze or crush or any other cause or change may seem to affect the safety of persons employed in any mine, or where fire occurs or a dangerous body of gas is found in any mine.

Section 3. On or before the first day of February in each year, the owner, operator or superintendent of every mine or colliery, shall send to the inspector of the district, a correct report specifying with respect to the year ending December thirty-first, previously, the name of the operator and officials of the mine, with his postoffice address; the quantity of coal mined, the amount of powder or other explosives consumed; the number of persons employed above and below ground in or about such colliery, classifying the persons so employed. The report shall be in such form as may be from time to time prescribed by the inspectors of the district. Blank forms for said reports shall be furnished by the Commonwealth.

ARTICLE XV.

Injunctions.

Section 1. Upon application of the inspector of mines of the proper district, acting in behalf of the Commonwealth, any of the courts of law or equity having jurisdiction where the mine or colliery proceeded against is situated, whether any proceedings have or have not been taken, shall prohibit, by injunction or otherwise, the working of any mine or colliery in which any person is employed or is permitted to be for the purpose of working in contravention of the provisions of this act, and may award such costs in the matter of the injunctions or other proceedings as the court may think just; but this section shall be without prejudice to any other remedy permitted by law for enforcing the provisions of this act. Written notice of the intention to apply for such injunction in respect to any mine or colliery, shall be made to the owner, operator or superintendent of such mine or colliery not less than twenty-four (24) hours before the application is made.

ARTICLE XVI.

Arbitration.

Section 1. Whenever an inspector finds any mine or colliery or part thereof, or any matter, thing or practice connected with such mine, which in any respect thereof is not covered by or provided against by any provisions of this act or by any rule, to be dangerous or defective, or in his judgment tends to bodily injury to a person, he shall give notice thereof in writing to the owner, operator or superintendent of such mine or colliery, stating in such notice the particular matter or defect requiring remedy and may demand that the same be remedied; but the owner, operator or superintendent of said mine or colliery shall have the right to refer the demand of the inspector to a board of arbitration, and the matter shall then be arbitrated within forty-eight (48) hours of the time such complaint or demand be made. And the party against whom the award is given shall pay

all cost attending the case. The said board of arbitration shall be composed of three (3) persons, one of whom shall be chosen by the inspector, one by the said owner, operator or superintendent and a third by the two thus selected, and the decision of a majority of such board shall be final and binding in the matter.

ARTICLE XVII.

Penalties.

Section 1. Any judge of the court of quarter sessions of the peace of the county in which the mine or colliery, at which the offense, act or omission as hereinafter stated has occurred, is situated, is hereby authorized and required, upon the presentation to him of the affidavit of any citizen of the Commonwealth setting forth that the owner, operator or superintendent, or any other person employed in or about such mine or colliery had been negligently guilty of an offense against the provisions of this act, whereby a dangerous accident had resulted or might have resulted to any person or persons employed in such mine or colliery, to issue a warrant to the sheriff of said county directing him to cause such person or persons to be arrested and brought before said judge, who shall hear and determine the guilt or innocence of the person or persons so charged; and if convicted he or they shall be sentenced to pay a fine not exceeding five hundred dollars, in all cases not otherwise provided for in this act, or an imprisonment in the county jail for a period not exceeding three (3) months, or both, at the discretion of the court: Provided, That any defendant may waive trial before a judge as herein provided and at any time, at or before the time of such trial, demand a trial by a jury in the court of quarter sessions, in which case he may enter into a recognizance before said judge with such surety or sureties and in such sum as said judge may approve, conditioned for his appearance at the next court of quarter sessions to answer the charge against him and abide the orders of the court in the premises, meanwhile to be of good behavior and keep the peace, or in default of such recognizance to be committed to the county jail to await such trial.

Section 2. If any person shall feel himself aggrieved by such conviction and sentence before a judge as aforesaid, he may appeal therefrom subject to the following conditions, namely: The appellant shall, within seven days after the decree has been made, give notice to the prosecutor of his intention to appeal, and within the same time enter into a recognizance, with such surety or sureties and in such sum as shall be approved by said judge, conditioned to appear and try such appeal before the next court of quarter sessions of the peace and to abide the judgment of the court thereon and to pay

all such costs and penalties as may be there awarded, and upon the compliance with such conditions the judge shall release the appellant from custody pending the appeal.

Section 3. Nothing in this act shall prevent any person from being indicted or liable under any other act, to any higher penalty or punishment than is herein provided, and if the court before whom any such proceeding is had shall be of the opinion that proceedings ought to be taken against such persons under any other act, or otherwise, he may adjourn the case to enable such proceedings to be taken.

Section 4. All offenses under this act are declared to be misdemeanors and in default of payment of any penalty or cost by the party or parties sentenced to pay the same, he or they may be imprisoned for a period not exceeding three (3) months and not less than thirty (30) days.

Section 5. For any violation of duty by the mine inspector prescribed by this act, he shall be deemed guilty of a misdemeanor, and upon conviction, be sentenced to pay a fine of not more than three hundred dollars or be imprisoned for a period not exceeding three months, or either, or both, at the discretion of the court.

Section 6. All fines imposed under this act shall be paid into the county treasury for the use of the county.

Section 7. No conviction or acquittal under this act, in any complaint, shall be received in evidence upon the trial of any action for damages arising from the negligence of any owner, operator or superintendent or employe in any mine or colliery.

Section 8. That for any injury to person or property occasioned by any violation of this act or any failure to comply with its provisions by any owner, operator, superintendent, mine foreman or fire boss of any coal mine or colliery, a right of action shall accrue to the party injured against said owner or operator for any direct damages he may have sustained thereby; and in case of loss of life by reason of such neglect or failure aforesaid, a right of action shall accrue to the widow and lineal heirs of the person whose life shall be lost, for like recovery of damages for the injury they shall have sustained.

ARTICLE XVIII.

Definition of Terms.

In this act, unless the context otherwise requires, the term "coal mine or colliery" includes every operation and work, both under ground and above ground, used or to be used for the purpose of mining and preparing coal.

The term "workings" includes al the excavated parts of a mine, those abandoned as well as the places actually at work.

The term "mine" includes all underground workings and excavations and shafts, tunnels and other ways and openings; also all such

shafts, slopes, tunnels and other openings in course of being sunk or driven, together with all roads, appliances, machinery and materials connected with the same below the surface.

The term "shaft" means a vertical opening through the strata and which is or may be used for the purpose of ventilation or drainage or for hoisting men or material in connection with the mining of coal.

The term "slope" means any inclined way or opening used for the same purpose as a shaft.

The term "breaker" means the structure containing the machinery used for the preparation of coal.

The term "owners" and "operators" means any person or body corporate who is the immediate proprietor or lessee or occupier of any coal mine or colliery or any part thereof. The term "owner" does not include a person or body corporate who merely receives a royalty, rent or fine from a coal mine or colliery or part thereof, or is merely the proprietor of the mine subject to any lease, grant or license for the working or operating thereof, or is merely the owner of the soil and not interested in the minerals of the mine or any part thereof. But any "contractor" for the working of a mine or colliery or any part or district thereof, shall be subject to this act as an operator or owner, in like manner as if he were the owner.

The term "superintendent" means the person who shall have, on behalf of the owner, general supervision of one or more mines or collieries.

ARTICLE XIX.

All laws or parts of laws inconsistent or in conflict with the provisions of this act are hereby repealed.

Approved—The 2d day of June, A. D. 1891.

ROBT. E. PATTISON.

AN ACT

Relating to bituminous coal mines and providing for the lives, health, safety and welfare of persons employed therein.

ARTICLE I.

Survey—Maps and Plans.

Section 1. Be it enacted, &c., That the operator or superintendent of every bituminous coal mine shall make, or cause to be made by a competent mining engineer or surveyor, an accurate map or plan of such coal mine, not smaller than on a scale of two hundred feet to an inch, which map shall show as follows:

First. All measurements of said mine in feet or decimal parts thereof.

Second. All the openings, excavations, shafts, tunnels, slopes, planes, main-entries, cross-entries, rooms, et cetera, in proper numerical order in each opened strata of coal in said mine.

Third. By darts or arrows made thereon by a pen or pencil the direction of air currents in said mine.

Fourth. An accurate delineation of the boundary lines between said coal mine and all adjoining mines or coal lands, whether owned or operated by the same operator or other operator, and the relation and proximity of the workings of said mine to every other adjoining mine or coal lands.

Fifth. The elevation above mean tide at Sandy Hook of all tunnels, and entries, and of the face of working places adjacent to boundary lines at points not exceeding three hundred feet apart.

Sixth. The bearings and lengths of each tunnel or entry, and of the boundary or property lines. The said map or plan, or a true copy thereof, shall be kept in the general mine office by the said operator or superintendent for use of the mine inspectors and for the inspection of any person or persons working in said mine whenever said person or persons shall have cause to fear that any working place is becoming dangerous by reason of its proximity to other workings that may contain water or dangerous gas.

Section 2. At least once in every six months, or oftener if necessary, the operator or superintendent of each mine shall cause to be shown accurately on the map or plan said coal mine, all the excavations made therein during the time elapsing since such excavations were last shown upon said map or plan; and all parts of said mine which were worked out or abandoned during said elapsed period of time shall be clearly indicated by colorings on said map or plan, and whenever any of the workings or excavations of said coal mine have been driven to their destination, a correct measurement of all such workings or excavations shall be made promptly and recorded in a survey book prior to the removal of the pillars or any part of the same from such workings or excavations.

Section 3. The operator or superintendent of every coal mine shall, within six months after the passage of this act, furnish the mine inspector of the district in which said mine is located with a correct copy on tracing muslin or sun print, of the map or plan of said mine hereinbefore provided for. And the inspector of the district shall, at the end of each year or twice a year if he requires it, forward said map or plan to the proper person at any particular mine, whose duty it shall be to place or cause to be placed on said map or plan all extensions and worked out or abandoned parts of the mine during the preceding six or twelve months, as the case may be, and return the

same to the mine inspector within thirty days from the time of receiving it. The copies of the maps or plans of the several coal mines of each district as hereinbefore required to be furnished to the mine inspector shall remain in the care of the inspector of the district in which the said mines are situated, as official records, to be transferred by him to his successor in office; but it is provided that in no case shall any copy of the same be made without the consent of the operator or his agent.

Section 4. If any superintendent or operator of mines shall neglect or fail to furnish to the mine inspector any copies of maps or plans as hereinbefore required by this act, or if the mine inspector shall believe that any map or plan of any coal mine made or furnished in pursuance of the provisions of this act is materially inaccurate or imperfect, then, in either case, the mine inspector is hereby authorized to cause a correct survey and map or plan of said coal mine to be made at the expense of the operator thereof, the cost of which shall be recoverable from said operator as other debts are recoverable by law: Provided, however, That if the map or plan which may be claimed by the mine inspector to be inaccurate shall prove to be correct, then the Commonwealth shall be liable for the expense incurred by the mine inspector in causing to be made said test survey and map, and the cost thereof, ascertained by the Auditor General by proper vouchers and satisfactory proof, shall be paid by the State Treasurer upon warrants which the said Auditor General is hereby directed to draw for the same.

ARTICLE II.

Section 1. It shall not be lawful for the operator, superintendent or mine foreman of any bituminous coal mine to employ more than twenty persons within said coal mine, or permit more than twenty persons to be employed therein at any one time unless they are in communication with at least two available openings to the surface from each seam or stratum of coal worked in such mine, exclusive of the furnace upcast shaft or slope: But provided, That in any mine operated by shaft or slope and ventilated by a fan, if the air shaft shall be divided into two compartments, one of them may be used for an air-way and the other for the purpose of egress and ingress from and into said mine by the persons therein employed and the same shall be considered a compliance with the provisions of this section hereinbefore set forth. And there shall be cut out or around the side of every hoisting shaft, or driven through the solid strata at the bottom thereof, a traveling way not less than five feet high and three feet wide to enable persons to pass the shaft in going from one side of it to the other without passing over or under the cage or other hoisting apparatus.

Section 2. The shaft or outlet, other than the main shaft or outlet shall be separated from the main outlet and from the furnace shaft by natural strata at all points by a distance of not less than one hundred and fifty feet (except in all mines opened prior to June thirtieth, one thousand eight hundred and eighty-five, where such distances may be less, if in the judgment of the mine inspector one hundred and fifty feet is impracticable). If the mine be worked by drift, two openings exclusive of the furnace upcast shaft and not less than thirty feet apart, shall be required (except in drift mines opened prior to June thirtieth, one thousand eight hundred and eighty-five, where the mine inspector of the district shall deem the same impracticable). Where the two openings shall not have been provided as required hereinbefore by this act, the mine inspector shall cause the second to be made without delay; and in no case shall furnace ventilation be used where there is only one opening into the mine.

Section 3. Unless the mine inspector shall deem it impracticable, all mines shall have at least two entries or other passage ways, one of which shall lead from the main entrance and the other from the opening into the body of the mine, and said two passageways shall be kept well drained and in a safe condition for persons to travel therein, throughout their whole length so as to obtain, in cases of emergency, a second way for egress from the workings. No part of said workings shall at any time be driven more than three hundred feet in advance of the aforesaid passageways, except entries, airways or other narrow work, but should an opening to the surface be provided from the interior of the mine, the passageways aforesaid may be made and maintained therefrom into the working part of the mine, and this shall be deemed sufficient compliance with the provisions of this act relative thereto; said two passageways shall be separated by pillars of coal or other strata of sufficient strength and width.

Section 4. Where necessary to secure access to the two passageways required in section three of article two of this act in any slope mine where the coal seam inclines and has workings on both sides of said slope, there shall be provided an overcast for the use of persons working therein, the dimensions of which shall not be less than four feet wide and five feet high. Said overcast shall connect the workings on both sides of said slope and the intervening strata between the slope and the overcast shall be of sufficient strength and thickness at all points for its purpose: Provided, That if said overcast be substantially constructed of masonry or other incombustible material it shall be deemed sufficient.

Section 5. When the opening or outlet, other than the main opening, is made and does not exceed seventy-five feet in vertical depth, it shall be set apart exclusively for the purpose of ingress to or egress from the mine by any person or persons employed therein it shall be

kept in a safe and available condition and free from steam and dangerous gases, and all other obstructions, and if such opening is a shaft it shall be fitted with safe and convenient stairs with steps of an average tread of ten inches and nine inches rise, not less than two feet wide and to not exceed an angle of sixty degrees descent with landings of not less than eighteen inches wide and four feet long, at easy and convenient distances: Provided, That the requirements of this section shall not be applicable to stairways in use prior to June thirtieth, one thousand eight hundred and eighty-five, when in the judgment of the mine inspector, they are sufficiently safe and convenient. And water coming from the surface or out of the strata in the shaft shall be conducted away by rings, casing or otherwise and be prevented from falling upon persons who are ascending or descending the stairway of the shaft.

Section 6. Where any mine is operated by a shaft which exceeds seventy-five feet in vertical depth, the persons employed in said mine shall be lowered into and raised from said mine by means of machinery, and in any such mine the shaft, other than the main shaft, shall be supplied with safe and suitable machinery for hoisting and lowering persons, or with safe and convenient stairs for use in cases of emergency by persons employed in said mine: Provided, That any mine operated by two shafts, and where safe and suitable machinery is provided at both shafts for hoisting coal or persons, shall have sufficiently complied with the requirements of this section.

Section 7. At any mine, where one of the two openings required hereinbefore is a slope and is used as a traveling way, it shall not have a greater angle of descent than twenty degrees and may be of any depth.

Section 8. The machinery used for lowering or raising the employes into or out of the mine and the stairs used for ingress or egress, shall be kept in a safe condition, and inspected once each twenty-four hours by a competent person employed for that purpose. And such machinery and the method of its inspection shall be approved by the mine inspector of the district in which the mine is situated.

ARTICLE III.

Hoisting Machinery, Safety Catches, Signaling Apparatus, Et Cetera.

Section 1. The operator or superintendent shall provide and maintain, from the top to bottom of every shaft where persons are raised or lowered, a metal tube suitably adapted to the free passage of sound through which conversation may be held between persons at the top and bottom of said shaft, and also a means of signaling from the top to the bottom thereof, and shall provide every cage or gear carriage used for hoisting or lowering persons with a sufficient over-

head covering to protect those persons when using the same, and shall provide also for each said cage or carriage a safety catch approved by the mine inspector. And the said operator or superintendent shall see that flanges, with a clearance of not less than four inches, when the whole of the rope is wound on the drum, are attached to the sides of the drum of every machine that is used for lowering and hoisting persons in and out of the mine, and also that adequate brakes are attached to the drum. At all shafts safety gates, to be approved by the mine inspector of the district shall be so placed as to prevent persons from falling into the shaft.

Section 2. The main coupling chain attached to the socket of the wire rope shall be made of the best quality of iron and shall be tested by weights or otherwise to the satisfaction of the mine inspector of the district where the mine is located, and bridle chains shall be attached to the main hoisting rope above the socket, from the top cross-piece of the carriage or cage, so that no single chain shall be used for lowering or hoisting persons into or out of the mines.

Section 3. No greater number of persons shall be lowered or hoisted at any one time than may be permitted by the mine inspector of the district, and notice of the number so allowed to be lowered or hoisted at any one time shall be kept posted up by the operator or superintendent in conspicuous places at the top and bottom of the shaft, and the aforesaid notice shall be signed by the mine inspector of the district.

Section 4. All machinery about mines from which any accident would be liable to occur shall be properly fenced off by suitable guard railing.

ARTICLE IV.

Section 1. The operator or superintendent of every bituminous coal mine, whether shaft, slope or drift, shall provide and hereafter maintain ample means of ventilation for the circulation of air through the main-entries, cross-entries and all other working places to an extent that will dilute, carry off and render harmless the noxious or dangerous gases, generated in the mine, affording not less than one hundred cubic feet per minute for each and every person employed therein; but in a mine where fire damp has been detected the minimum shall be one hundred and fifty cubic feet per minute for each person employed therein, and as much more in either case as one or more of the mine inspectors may deem requisite.

Section 2. After May thirtieth, one thousand eight hundred and ninety four, not more than sixty-five persons shall be permitted to work in the same air current: Provided, That a larger number, not exceeding one hundred, may be allowed by the mine inspector where,

in his judgment, it is impracticable to comply with the foregoing requirement; and mines where more than ten persons are employed, shall be provided with a fan, furnace or other artificial means to produce the ventilation, and all stoppings between main intake and return air-ways hereinafter built or replaced shall be substantially built with suitable material, which shall be approved by the inspector of the district.

Section 3. All ventilating fans shall be kept in operation continuously night and day, unless operations are indefinitely suspended, except written permission is given by the mine inspector of the district to stop the same, and the said written permission shall state the particular hours the said fan may not be in operation, and the mine inspector shall have power to withdraw or modify such permission as he may deem best, but in all cases the fan shall be started two hours before the time to begin work. When the fan may be stopped by permission of the mine inspector a notice printed in the various languages used by persons employed in the mine, stating at what hour or hours the fan will be stopped, shall be posted by the mine foreman in a conspicuous place at the entrance or entrances to the mine.

Said printed notices shall be furnished by the mine inspector and the cost thereof borne by the State: Provided, That should it at any time become necessary to stop the fan on account of accident or needed repairs to any part of the machinery connected therewith, or by reason of any other unavoidable cause, it shall then be the duty of the mine foreman or any other officials in charge, after first having provided, as far as possible for the safety of the persons employed in the mine, to order said fan to be stopped so as to make the necessary repairs or to remove any other difficulty that may have been the cause of its stoppage. And all ventilating furnaces in mines shall, for two hours before the appointed time to begin work and during working hours, be properly attended by a person employed for that purpose. In mines generating fire-damp in sufficient quantities to be detected by ordinary safety lamps, all main air bridges or overcasts made after the passage of this act shall be built of masonry or other incombustible material of ample strength or be driven through the solid strata.

In all mines the doors used in guiding and directing the ventilation of the mine shall be so hung and adjusted that they will close themselves, or be supplied with spring or pulleys so that they cannot be left standing open, and an attendant shall be employed at all principal doors through which cars are hauled, for the purpose of opening and closing said doors when trips of cars are passing to and from the workings, unless an improved self-acting door is used, which principal doors shall be determined by the mine inspector or

mine foreman. A hole for shelter shall be provided at each door so as to protect said attendant from being run over by the cars while attending to his duties, and persons employed for this purpose shall at all times remain at their post of duty during working hours: Provided, That the same person may attend two doors where the distance between them is not more than one hundred feet. On every inclined plane or road in any mine where haulage is done by machinery and where a door is used, an extra door shall be provided to be used in case of necessity.

ARTICLE V.

Safety Lamps, Fire Bosses, Et Cetera.

Section 1. All mines generating fire-damp shall be kept free of standing gas in all working places and roadways. No accumulation of explosive gas shall be allowed to exist in the worked out or abandoned parts of any mine when it is practicable to remove it, and the entrance or entrances to said worked out and abandoned places shall be properly fenced off, and cautionary notices shall be posted upon said fencing to warn persons of danger.

Section 2. In all mines wherein explosive gas has been generated within the period of six months next preceding the passage of this act, and also in all mines where fire-damp shall be generated, after the passage of this act, in sufficient quantities to be detected by the ordinary safety lamp, every working place without exception and all road ways shall be carefully examined immediately before each shift by competent person or persons appointed by the superintendent and mine foreman for that purpose. The person or persons making such examination shall have received a fire boss certificate of competency required by this act, and shall use no light other than that enclosed in a safety lamp while making said examination. In all cases said examination shall be begun within three hours prior to the appointed time of each shift commencing to work, and it shall be the duty of the said fire boss at each examination to leave at the face and side of every place so examined, evidence of his presence. And he shall also, at each examination, inspect the entrance or entrances to the worked out or abandoned parts which are adjacent to the roadways and working places of the mine where fire-damp is likely to accumulate, and where danger is found to exist he shall place a danger signal at the entrances to such places, which shall be sufficient warning for persons not to enter said place.

Section 3. In any place that is being driven towards or in dangerous proximity to an abandoned mine or part of a mine suspected of containing inflammable gases, or which may be inundated with water, bore holes shall be kept not less than twelve feet in advance of the face, and on the sides of such working places, said side holes

to be drilled diagonally not more than eight feet apart, and any place driven to tap water or gas shall not be more than ten feet wide, and no water or gas from an abandoned mine or part of a mine and no bore holes from the surface, shall be tapped until the employes, except those engaged at such work, are out of the mine, and such work to be done under the immediate instruction of the mine foreman.

Section 4. The fire boss shall at each entrance to the mine or in the main intake air-way near to the mine entrance, prepare a permanent station with the proper danger signal designated by suitable letters and colors placed thereon, and it shall not be lawful for any person or persons, except the mine officials in cases of necessity, and such other persons as may be designated by them, to pass beyond said danger station until the mine has been examined by the fire boss as aforesaid and the same, or certain parts thereof, reported by him to be safe, and in all mines where operations are temporarily suspended the superintendent and mine foreman shall see that a danger signal be placed at the mine entrance or entrances, which shall be a sufficient warning to persons not to enter the mine, and if the ordinary circulation of air through the mine be stopped each entrance to said mine shall be securely fenced off and a danger signal shall be displayed upon said fence and any workman or other person, (except those persons hereinbefore provided for,) passing by any danger signal into the mine before it has been examined and reported to be safe as aforesaid, shall be deemed guilty of a misdemeanor and it shall be the duty of the fire boss, mine foreman, superintendent or any employe to forthwith notify the mine inspector, who shall enter proceedings against such person or persons as provided for in section two of article twenty-one of this act.

Section 5. All entries, tunnels, air ways, traveling ways and other working places of a mine where explosive gas is being generated in such quantities as can be detected by the ordinary safety lamp, and pillar workings and other working places in any mine where a sudden inflow of said explosive gas is likely to be encountered, (by reason of the subsidence of the overlying strata or from any other causes), shall be worked exclusively with locked safety lamps. The use of open lights is also prohibited in all working places, roadways or other parts of the mine through which fire-damp might be carried in the air current in dangerous quantities. In all mines or parts of mines worked with locked safety lamps the use of electric wires and electric currents is positively prohibited, unless said wires and machinery and all other mechanical devices attached thereto and connected therewith are constructed and protected in such a manner as to secure freedom from the emission of sparks or flame therefrom into the atmosphere of the mine.

Section 6. After January first, one thousand eight hundred and ninety-four, the use of the common Davy safety lamp for general work on any bituminous coal mine is hereby prohibited, neither shall the Clanny lamp be so used unless its gauze is thoroughly protected by a metallic shield, but this act does not prohibit the use of the Davy and Clanny lamps by the mine officials for the purpose of examining the workings for gas.

Section 7. All safety lamps used for examining mines or for working therein shall be the property of the operator, and shall be in the care of the mine foreman, his assistant or fire boss, or other competent person, who shall clean, fill, trim, examine and deliver the same, locked, in a safe condition to the men when entering the mine before each shift, and shall receive the same from the men at the end of each shift, for which service a charge not exceeding cost of labor and material may be made by the operator. A sufficient number of safety lamps, but not less than twenty-five per centum of those in use, shall be kept at each mine where gas has at any time been generated in sufficient quantities to be detected by an ordinary safety lamp, for use in case of emergency. It shall be the duty of every person who knows his safety lamp to be injured or defective, to promptly report such fact to the party authorized herein to receive and care for said lamps, and it shall be the duty of that party to promptly report such fact to the mine foreman.

ARTICLE VI.

Mine Foreman and His Duties.

Section 1. In order to better secure the proper ventilation of the bituminous coal mines and promote the health and safety of the persons employed therein, the operator or superintendent shall employ a competent and practical inside overseer for each and every mine, to be called mine foreman; said mine foreman shall have passed an examination and obtained a certificate of competency or of service as required by this act and shall be a citizen of the United States and an experienced coal miner, and said mine foreman shall devote the whole of his time to his duties at the mine when in operation, or in case of his necessary absence, an assistant, chosen by him and shall keep a careful watch over the ventilating apparatus, and the air ways, traveling ways, pump and pump timbers and drainage, and shall often instruct, and as far as possible, see that as the miners advance their excavations all dangerous coal, slate and rock overhead are taken down or carefully secured against falling therein, or on the traveling and hauling ways, and that sufficient props, caps and timbers of suitable size are sent into the mine when required, and all props shall be cut square at both ends, and as near as prac-

ticable to a proper length for the places where they are to be used, and such props, caps and timbers shall be delivered in the working places of the mine.

Section 2. Every workman in want of props or timbers and cap pieces shall notify the mine foreman or his assistant of the fact at least one day in advance, giving the length and number of props or timbers and cap pieces required, but in cases of emergency the timbers may be ordered immediately upon the discovery of any danger. (The place and manner of leaving the orders for the timber shall be designated and specified in the rules of the mine.) And if, from any cause, the timbers cannot be supplied when required, he shall instruct the persons to vacate all said working places until supplied with the timber needed, and shall see that all water be drained or hauled out of all working places before the miner enters and as far as practicable kept dry while the miner is at work.

Section 3. It shall be the duty of the mine foreman to see that proper cut-throughs are made in all the room pillars at such distances apart as in the judgment of the mine inspector may be deemed requisite, not more than thirty-five nor less than sixteen yards each, for the purpose of ventilation, and the ventilation shall be conducted through said cut-through into rooms by means of check doors made of canvas or other suitable material, placed on the entries, or in other suitable places, and he shall not permit any room to be opened in advance of the ventilating current. Should the mine inspector discover any room, entry, air-way or other working places being driven in advance of the air current contrary to the requirements of this section, he shall order the workmen working in such places to cease work at once until the law is complied with.

Section 4. In all hauling roads, on which hauling is done by animal power, and whereon men have to pass to and from their work, holes for shelter, which shall be kept clear of obstruction, shall be made at least every thirty yards and be kept whitewashed, but shelter holes shall not be required in entries from which rooms are driven at regular intervals not exceeding fifty feet, where there is a space four feet between the wagon and rib, it shall be deemed sufficient for shelter. On all hauling roads whereon hauling is done by machinery, and all gravity or inclined planes inside mines upon which the persons employed in the mine must travel on foot to and from their work, such shelter holes shall be cut not less than two feet six inches into the strata and not more than fifteen yards apart, unless there is a space of at least six feet from the side of the car to the side of the roadway, which space shall be deemed sufficient for shelter: Provided, That this requirement shall not apply to any parts of mines which parts were opened prior to the passage of this act if deemed impracticable by the mine inspector.

Section 5. The mine foreman shall measure the air current at least once a week at the inlet and outlet and at or near the faces of the entries, and shall keep a record of such measurements. An anemometer shall be provided for this purpose by the operator of the mine. It shall be the further duty of the mine foreman to require the workmen to use locked safety lamps when and where required by this act.

Section 6. The mine foreman shall give prompt attention to the removal of all dangers reported to him by the fire boss or any other person working in the mine, and in mines where a fire boss is not employed, the said mine foreman or his assistant shall visit and examine every working place therein at least once every alternate day while the miners of such place are or should be at work, and shall direct that each and every working place be properly secured by props or timbers, and that no person shall be directed or permitted to work in an unsafe place unless it be for the purpose of making it safe: Provided, That if the owner or operator of any mine employing a fire boss shall require the mine foreman to examine every working place every alternate day, then it shall be the duty of the mine foreman to do so.

Section 7. When the mine foreman is unable personally to carry out all the requirements of this act as pertaining to his duties, he shall employ a competent person or persons, not objectionable to the operator, to act as his assistant or assistants, who shall act under his instructions, and in all mines where fire-damp is generated the said assistant or assitants shall possess a certificate of competency as mine foreman or fire boss.

Section 8. A suitable record book, with printed head lines, prepared by and approved by the mine inspector, the same to be provided at the expense of the Commonwealth, shall be kept at each mine generating explosive gases, and immediately after each examination of the mine made by the fire boss or fire bosses, a record of the same shall be entered in said book, signed by the person or persons making such examinations, which shall clearly state the nature and location of any danger which he or they may have discovered, and the fire boss or fire bosses shall immediately report such danger and the location of the same to the mine foreman, whose duty it shall be to remove the danger, or to cause the same to be done forthwith as far as practicable, and the mine foreman shall also each day countersign all reports entered by the fire boss or fire bosses. At all mines the mine foreman shall enter in a book provided as above by the mine inspector, a report of the condition of the mine, signed by himself, which shall clearly state any danger that may have come under his observation during the day, and shall also state whether he has a proper supply of material on hand for the safe working of the mine, and whether all requirements of the law are strictly com-

plied with. He shall, once each week, enter or cause to be entered, plainly, with ink, in said book, a true record of all air measurements required by this act, and such books shall at all times, be kept at the mine office for examination by the mine inspector of the district and any other person working in the mines.

ARTICLE VII.

Timber and Other Mine Supplies, Et Cetera.

Section 1. It shall be the duty of the superintendent, on behalf and at the expense of the operator to keep on hand at the mines at all times, a full supply of all materials and supplies required to preserve the health and safety of the employes as ordered by the mine foreman and required by this act. He shall at least once a week, examine and countersign—(which countersignature of the superintendent shall be held, under this act to have no further bearing than the evidence of the fact that the mine superintendent has read the matter entered on the book)—all reports entered in the mine record book, and if he finds that the law is being violated in any particular, he shall order the mine foreman to comply with its provisions forthwith. If from any cause he cannot procure the necessary supplies or materials as aforesaid, he shall notify the mine foreman, whose duty it shall be to withdraw the men from the mine or part of mine until such supplies or materials are received.

Section 2. The superintendent of the mine shall not obstruct the mine foreman or other officials in their fulfillment of any of the duties required by this act. At mines where superintendents are not employed, the duties that are herein prescribed for the superintendent shall devolve upon the mine foreman.

ARTICLE VIII.

Steam Boilers, Stables, Regulations for the Use of Oil, Powder, Et Cetera.

Section 1. After the passage of this act it shall be unlawful to place a main or principal ventilating fan shed inside of any bituminous coal mine wherein explosive gas has been detected or in which the air current is contaminated with coal dust. No stationery steam boiler shall be placed in any bituminous coal mine, unless said steam boiler be placed within fifty feet from the bottom of an up-cast shaft, which shaft shall not be less than twenty-five square feet in area, and after May thirtieth, one thousand eight hundred and ninety-five, no stationary steam boiler shall be permitted to remain in any bituminous coal mine, only as aforesaid.

Section 2. It shall not be lawful after the passage of this act to provide any horse or mule stables inside of bituminous coal mines, unless said stables are excavated in the solid strata or coal seams, and

no wood or other combustible material shall be used excessively in the construction of said stables, unless surrounded by or incased by some incombustible material. The air current used for ventilating said stable shall not be intermixed with the air current used for ventilating the working parts of the mine, but shall be conveyed directly to the return air current, and no open light shall be permitted to be used in any stable in any mine.

Section 3. No hay or straw shall be taken into any mine, unless pressed and made up into compact bales, and all hay or straw taken into the mines as aforesaid, shall be stored in a storehouse excavated in the solid strata or built in masonry for that purpose. After January first, one thousand eight hundred and ninety-four, no horse or mule stable or storehouse, only as aforesaid, shall be permitted in any bituminous coal mine.

Section 4. No explosive oil shall be used or taken into bituminous coal mines for lighting purposes, and oil shall not be stored or taken into the mines in quantities exceeding five gallons. The oiling or greasing of cars inside of the mines is strictly forbidden unless the place where said oil or grease is used is thoroughly cleaned at least once every day to prevent the accumulation of waste oil or grease on the roads or in the drains at that point. Not more than one barrel of lubricating oil shall be permitted in the mine at any one time. Only a pure animal or pure cotton-seed oil or oils, that shall be as free from smoke as pure animal or pure cotton-seed oil, shall be used for illuminating purposes in any bituminous mine. Any person found knowingly using explosive or impure oil, contrary to this section, shall be prosecuted as provided for in section two of article twenty-one of this act.

Section 5. No powder or high explosive shall be stored in any mine, and no more of either article shall be taken into the mine at any one time than is required in any one shift, unless the quantity be less than five pounds, and in all working places where locked safety lamps are used blasting shall only be done by the consent and in the presence of the mine foreman, his assistant or fire boss, or any competent party designated by the mine foreman for that purpose; whenever the mine inspector discovers that the air in any mine is becoming vitiated by the unnecessary blasting of the coal, he shall have the power to regulate the use of the same and to designate at what hour of the day blasting may be permitted.

ARTICLE IX.

Opening for Drainage, Et Cetera, on Other Lands.

Section 1. If any person, firm or corporation is or shall hereafter be seized in his or their own right of coal lands, or shall hold such lands under lease and shall have opened or shall desire to open a

coal mine on said land, and it shall not be practicable to drain or ventilate such mines or to comply with the requirements of this act as to ways of ingress and egress or traveling ways by means of openings on lands owned or held under lease by him, them or it, and the same can be done by means of openings on adjacent lands, he, they or it may apply by petition to the court of quarter sessions of the proper county, after ten days' notice to the owner or owners, their agents or attorney, setting forth the facts under oath or affirmation particularly describing the place or places where such opening or openings can be made, and the pillars of coal or other material necessary for the support of such passageway and such right of way to any public road as may be needed in connection with such opening, and that he or they cannot agree with the owner or owners of the land as to the amount to be paid for the privilege of making such opening or openings, whereupon the said court shall appoint three disinteresied and competent citizens of the county to view the ground designated and lay out from the point or points mentioned in such petition, a passage or passages not more than eighty feet area by either drift, shaft or slope, or by a combination of any of said methods by any practicable and convenient route to the coal of such person, firm or corporation, preferring in all cases an opening through the coal strata where the same is practicable. The said viewers shall, at the same time, assess the damages to be paid by the petitioner or petitioners to the owner or owners of such lands for the coal and other valuable material to be removed in the excavation and construction of said passage, also for such coal or other valuable material necessary to support the said passage, as well as for a right of way not exceeding fifteen feet in width from any such opening to any public road, to enable persons to gain entrance to the mine through such opening or to provide therefrom, upon the surface, a water course of suitable dimensions to a natural stream to enable the operator to discharge the water from said mine if such right of way shall be desired by the petitioner or petitioners, which damages shall be fully paid before such opening is made. The proceedings shall be recorded in the road docket of the proper county, and the pay of viewers shall be the same as in road cases; if exceptions be filed they shall be disposed of by the court as speedily as possible, and both parties to have the right to take depositions as in road cases. If, however, the petitioner desires to make such openings or roads or waterways before the final disposition of such exceptions, he shall have the right to do so by giving bond, to be aprpoved by the court securing the damages as provided by law in the case of lateral railroads.

Section 2. It shall be compulsory upon the part of the mine owner or operator to exercise the powers granted by the provisions of the

last preceding section for the procuring of a right of way on the surface from the opening of a coal mine to a public road or public roads, upon the request in writing of fifty miners employed in the mine or mines of such owner or operator: Provided however, That with such request satisfactory security be deposited with the mine owner or operator by said petitioners, being coal miners, to fully and sufficiently pay all costs, damages and expenses caused by such proceedings and in paying for such right of way.

Section 3. In any mine or mines, or parts thereof, wherein water may have been allowed to accumulate in large and dangerous quantities, putting in danger the adjoining or adjacent mines and the lives of the miners working therein, and when such can be tapped and set free and flow by its own gravity to any point of drainage, it shall be lawful for any operator or person having mines so endangered, with the approval of the inspector of the district, to proceed and remove the said danger by driving a drift or drifts protected by bore holes as provided by this act, and in removing said danger it shall be lawful to drive across property lines if needful.

And it shall be unlawful for any person to dam or in any way obstruct the flow of any water from said mine or parts thereof, when so set free on any part of its passage to point of drainage.

Section 4. No operator shall be permitted to mine coal within fifty feet of any abandoned mine containing a dangerous accumulation of water, until said danger has been removed by driving a passage way so as to tap and drain off said water as provided for in this act: Provided, That the thickness of the barrier pillars shall be greater and shall be in proportion of one foot of pillar thickness to each one and one-quarter foot of waterhead if, in the judgment of the engineer of the property and that of the district mine inspector, it is necessary for the safety of the persons working in the mine.

Section 5. All operators of bituminous coal mines shall keep posted in a conspicuous place at their mines the general and special rules embodied in and made part of this act, defining the duties of all persons employed in or about said mine, which said rules shall be printed in the English language, and shall also be printed in such other language or languages as are used by any ten persons working therein. It shall be the duty of the mine inspector to furnish to the operator printed copies of such rules and such translations thereof as are required by this section, and to certify their correctness over his signature. The cost thereof shall be borne by the State.

ARTICLE X.

Inspectors, Examining Boards, Et Cetera.

Section 1. The board of examiners appointed to examine candidates for the office of mine inspectors under the provisions of the act

to which this is a supplement, shall exercise all the powers granted, and perform all the duties required by this supplementary act, and at the expiration of their term of office, and every four years thereafter, the Governor shall appoint, as hereinafter provided, during the month of January, two mining engineers of good repute and three other persons, who shall have passed successful examinations qualifying them to act as mine inspectors or mine foremen in mines generating fire-damp, who shall be citizens of this Commonwealth and shall have attained the age of thirty years and shall have had at least five years of practical experience in the bituminous mines of Pennsylvania, and who shall not be serving at that time in any official capacity at mines, which five persons shall constitute a board of examiners whose duty it shall be to inquire into the character and qualification of candidates for the office of inspector of mines under the provisions of this act.

Section 2. The examining board, so constituted shall meet on the first Tuesday of March following their appointment, in the city of Pittsburgh, to examine applicants for the office of mine inspector: Provided, however, The examining board shall meet two weeks previous to the aforesaid time for the purpose of preparing questions, et cetera, and when called together by the Governor on extra occasions at such time and place as he may designate, and after being duly organized and having taken and subscribed before any officer authorized to administer the same the following oath, namely, "We, the undersigned, do solemnly swear (or affirm) that we will perform the duties of examiners of applicants for the appointment as inspectors of bituminous coal mines to the best of our abilities, and that in recommending or rejecting said applicant, we will be governed by the evidence of the qualifications to fill the position under the law creating the same, and not by any consideration of political or personal favor; and that we will certify all whom we may find qualified according to the true intent and meaning of the act and none others."

Section 3. The general examination shall be in writing and the manuscript and other papers of all applicants, together with the tally sheets and the solution of each question as given by the examining board, shall be filed with the Secretary of Internal Affairs as public documents, but each applicant shall undergo an oral examination pertaining to explosive gases and safety lamps, and the examining board shall certify to the Governor the names of all such applicants which they shall find competent to fill this office under the provisions of this act, which names, with the certificates and their percentages and the oaths of the examiners, shall be mailed to the Secretary of the Commonwealth and be filed in his office. No person shall be certified as competent whose percentage shall be less

than ninety per centum, and such certificate shall be valid only when signed by four of the members of the examining board.

Section 4. The qualification of candidates for said office of inspectors of mines to be inquired into and certified by said examiners, shall be as follows, namely: They shall be citizens of Pennsylvania, of temperate habits, of good repute as men of personal integrity, and shall have attained the age of thirty years, and shall have had at least five years of practical experience in working of or in the workings of the bituminous mines of Pennsylvania immediately preceding their examination, and shall have had practical experience with fire-damp inside the mines of this country, and upon examination shall give evidence of such theoretical as well as practical knowledge and general intelligence respecting mines and mining and the working and ventliation thereof, and all noxious mine gases, and will satisfy the examiners of their capability and fitness for the duties imposed upon inspectors of mines by the provisions of this act. And the examining board shall immediately after the examination, furnish to each person who came before it to be examined, a copy of all questions whether oral or written, which were given at the examination on printed slips of paper and to be marked solved, right, imperfect or wrong, as the case may be, together with a certificate of competency to each candidate who shall have made at least ninety per centum.

Section 5. The board of examiners may, also at their meeting, or when at any time called by the Governor together for an extra meeting, divide the bituminous coal regions of the State into inspection districts, no district to contain less than sixty nor more than eighty mines, and as nearly as possible equalizing the labor to be performed by each inspector, and at any subsequent calling of the board of examiners this division may be revised as experience may prove to be advisable.

Section 6. The board of examiners shall each receive ten dollars per day for each day actually employed, and all necessary expenses, to be paid out of the State Treasury. Upon the filing of the certificate of the examining board in the office of the Secretary of the Commonwealth, the Governor shall, from the names so certified, commission one person to be inspector of mines for each district as fixed by the examiners in pursuance of this supplementary act, whose commission shall be for a full term of four years from the fifteenth day of May following: Always provided however, The highest candidate or candidates in percentage shall have priority to be commissioned for a full term or unexpired term before those candidates of lower percentage, and in case of a tie percentage the oldest candidate shall be commissioned.

Section 7. As often as vacancies occur in said office of inspectors of mines, the Governor shall commission for the unexpired term

from the names on file, the highest percentage in the office of the Secretary of the Commonwealth, until the number shall be exhausted, and whenever this may occur, the Governor shall cause the aforesaid board of examiners to meet, and they shall examine persons who may present themselves for the vacant office of mine inspector as herein provided, and the board of examiners shall certify to the Governor all persons who shall have made ninety per centum in said examination, one of whom to be commissioned by him according to the provisions of this act for the office of mine inspector for the unexpired term, and any vacancy that may occur in the examining board shall be filled by the Governor of this Commonwealth.

Section 8. Each inspector of mines shall receive for his services an annual salary of three thousand dollars and actual traveling expenses, to be paid quarterly by the State Treasurer upon warrant of the Auditor General, and each mine inspector shall keep an office in the district for which he is commissioned and he shall be permitted to keep said office at his place of residence: Provided, A suitable apartment or room be set off for that purpose. Each mine inspector is hereby authorized to procure such instruments, chemical tests and stationery and to incur such expenses of communication from time to time, as may be necessary to the proper discharge of his duties under this act at the cost of the State, which shall be paid by the State Treasurer upon accounts duly certified by him and audited by the proper department of the State.

Section 9. All instruments, plans, books, memoranda, notes and other material pertaining to the office shall be the property of the State, and shall be delivered to their successors in office. In addition to the expenses now allowed by law to the mine inspectors in enforcing the several provisions of this act, they shall be allowed all necessary expenses by them incurred in enforcing the several provisions of said law in the respective courts of the Commonwealth, the same to be paid by the State Treasurer on warrants drawn by the Auditor General after auditing the same; all such accounts presented by the mine inspector to the Auditor General shall be itemized and first approved by the court before which the proceedings were instituted.

Section 10. Each mine inspector of bituminous coal mines shall, before entering upon the discharge of his duties, give bond in the sum of five thousand dollars, with sureties to be approved by the president judge of the district in which he resides, conditional for the faithful discharge of his duties, and take an oath or affirmation to discharge his duties impartially and with fidelity to the best of his knowledge and ability. But no person who shall act as manager or agent of any coal mine, or as mining engineer or is interested in operating any coal mine, shall, at the same time act as mine inspector of coal mines under this act.

Section 11. Each inspector of bituminous coal mines shall devote the whole of his time to the duties of his office. It shall be his duty to examine each mine in his district as often as possible, but a longer period of time than three months shall not elapse between said examination, to see that all the provisions of this act are observed and strictly carried out, and he shall make a record of all examinations of mines, showing the condition in which he finds them, especially with reference to ventilation and drainage, the number of persons employed in each mine, the extent to which the law is obeyed and progress made in the improvement of mines, the number of serious accidents and the nature thereof, the number of deaths resulting from injuries received in or about the mines with the cause of such accident or death, which record completed to the thirty-first day of December of each and every year, shall, on or before the fifteenth day of March following, be filed in the office of the Secretary of Internal Affairs, to be by him recorded and included in the annual report of his department.

Section 12. It shall be the duty of the mine inspector on examination of any mine, to make out a written, or partly written and partly printed report of the condition in which he finds such mine and post the same in the office of the mine or other conspicuous place. The said report shall give the date of the visit, the number of cubic feet of air in circulation and where measured, and that he has measured the air at the cut through one or more rooms in each heading or entry, and such other information as he shall deem necessary, and the said report shall remain posted in the office or conspicuous place for one year and may be examined by any person employed in or about the mine.

Section 13. In case the inspector becomes incapacitated to perform the duties of his office or receives a leave of absence from the same from the Governor, it shall be the duty of the judge of the court of common pleas of his district to appoint, upon said mine inspector's application or that five miners or five operators of said inspector's district, some competent person, recommended by the board of examiners to fill the office of inspector until the said inspector shall be able to resume the duties of his office, and the person so appointed shall be paid in the same manner as is hereinbefore provided for the inspector of mines.

ARTICLE XI.

Inspectors' Powers, Et Cetera.

Section 1. That the mine inspectors may be enabled to perform the duties herein imposed upon them, they shall have the right at all times to enter any bituminous coal mine to make examinations or obtain information, and upon the discovery of any violation of this act, they shall institute proceedings against the person or persons at

fault under the provisions of section two of article twenty-one of this act. In case, however, where, in the judgment of the mine inspector of the district, any mine or part of mine is in such dangerous condition as to jeopardize life or health, he shall at once notify two of the mine inspectors of the other districts, whereupon they shall at once proceed to the mine where the danger exists and examine into the matter, and if, after full investigation thereof, they shall agree in the opinion that there is immediate danger, they shall instruct the superintendent of the mine in writing to remove such condition forthwith, and in case said superintendent shall fail to do so, then they shall apply, in the name of the Commonwealth, to the court of common pleas of the county, or in case the court shall not be in session, to a judge of the said court in chambers in which the mine may be located for an injunction to suspend all work in and about said mine, whereupon said court or judge shall at once proceed to hear, and determine speedily the same, and if the cause appear to be sufficient after hearing the parties and their evidences, as in like cases, shall issue its writ to restrain the working of said mine until all cause of danger is removed, and the cost of said proceedings shall be borne by the owner, lessee or agent of the mine: Provided, That if said court shall find the cause not sufficient, then the case shall be dismissed and the costs shall be borne by the county wherein said mine is located.

ARTICLE XII.

Inquests, Et Cetera.

Section 1. Whenever, by reason of any explosion or other accidents in any bituminous coal mine or the machinery connected therewith, loss of life or serious personal injury shall occur, it shall be the duty of the person having charge of such mine to give notice thereof forthwith to the mine inspector of the district and also to the coroner of the county, if any person is killed.

Section 2. If the coroner shall determine to hold an inquest, he shall notify the mine inspector of the district of time and place of holding the same, who shall offer such testimony as he may deem necessary to thoroughly inform the said inquest of the cause of the death, and the said mine inspector shall have authority at any time to appear before such coroner and jury and question or cross-question any witness, and in choosing a jury for the purpose of holding such inquest it shall be the duty of the coroner to empanel a jury, no one of which shall be directly or indirectly interested.

Section 3. It shall be the duty of the mine inspector, upon being notified of any fatal accident as herein provided, to immediately repair to the scene of the accident and make such suggestions as may appear necessary to secure the safety of any persons who may be en-

dangered, and if the results of the accident do not require an investigation by the coroner the said mine inspector shall proceed to investigate and ascertain the cause of the accident and make a record thereof, which he shall file as provided for, and to enable him to make the investigation he shall have power to compel the attendance of persons to testify, and to administer oaths or affirmations, and if it is found upon investigation that the accident is due to the violation of any provisions of this act by any person, other than those who may be deceased, the mine inspector may institute proceedings against such person or persons as provided for in section two of article twenty-one of this act.

Section 4. The cost of such investigation shall be paid by the county in which the accident occurred in the same manner as costs of inquests held by coroners or justices of the peace are paid.

ARTICLE XIII.

Neglect or Incompetence of Inspectors.

Section 1. The court of common pleas in any county or district, upon a petition signed by not less than fifteen reputable citizens, who shall be miners or operators of mines, and with the affidavit of one or more of said petitioners attached setting forth that any inspector of mines neglects his duties or is incompetent, or that he is guilty of a malfeasance in office, shall issue a citation in the name of the Commonwealth to the said mine inspector to appear on not less than fifteen days' notice, upon a day fixed, before said court, at which time the court shall proceed to inquire into and investigate the allegations of the said petitioners.

Section 2. If the court find that the said mine inspector is neglectful of his duties or incompetent to perform the duties of his office or that he is guilty of malfeasance in office, the court shall certify the same to the Governor, who shall declare the office of said mine inspector vacant and proceed in compliance with the provisions of this act to supply the vacancy; and the costs of said investigation shall, if the charges are sustained, be imposed upon the mine inspector, but if the charges are not sustained, they shall be imposed upon the petitioners.

ARTICLE XIV.

Discretionary Powers of Inspectors, Arbitration, Et Cetera.

Section 1. The mine inspectors shall exercise a sound discretion in the enforcement of the provisions of this act, and if the operator, owner, miners, superintendent, mine foreman or other persons employed in or about the mine as aforesaid shall not be satisfied with any decision the mine inspector may arrive at in the discharge of his duties under this act, which said decision shall be in writing signed

by the mine inspector, the said owner, operator, superintendent, mine foreman or other person specified above shall either promptly comply therewith or within seven days from date thereof appeal from such decision to the court of quarter sessions of the county wherein the mine is located, and said court shall speedily determine the question involved in said decision and appeal and the decision of said court shall be binding and conclusive.

Section 2. The court or the judge of said court in chambers may in its discretion, appoint three practical, reputable, competent and disinterested persons whose duty it shall be, under instructions of the said court, to forthwith examine such mine or other cause of complaint and report under oath, the facts as they exist or may have been, together with their opinions thereon within thirty days after their appointment. The report of said board shall become absolute unless exceptions thereto shall be filed within ten days after the notice of the filing thereof by the owner, operator, mine superintendent, mine foreman, mine inspector and other persons, as aforesaid, and if exceptions are filed the court shall at once hear and determine the same and the decision shall be final and conclusive.

Section 3. If the court shall finally sustain the decision of the mine inspector, then the appellant shall pay all costs of such proceedings, and if the court shall not sustain the decision of the mine inspector then such costs shall be paid by the county: Provided, That no appeal from any decision made by any mine inspector which can be immediately complied with shall work as a supersedeas to such decisions during the pendency of such appeal, but all decisions shall be in force until reversed or modified by the proper court.

ARTICLE XV.

Examinations of Mine Foremen and Fire Bosses.

Section 1. On the petition of the mine inspector the court of common pleas in any county in said district shall appoint an examining board of three persons, consisting of a mine inspector, a miner and an operator or superintendent, which said miner shall have received a certificate of competency as mine foreman in mines generating explosive gases, and the members of said examining board shall be citizens of this Commonwealth, and the persons so appointed shall after being duly organized take and subscribe before an officer authorized to administer the same, the following oath, namely: "We, the undersigned, do solemnly swear (or affirm) that we will perform the duties of examiners of applicants for the position of mine foremen and fire bosses of bituminous coal mines to the best of our abilities, and that in certifying or rejecting said applicants we will be governed by the evidence of the qualifications to fill the position

under the law creating the same and not by any consideration of personal favor; that we will certify all whom we may find qualified and none others."

Section 2. The examining board shall examine any person applying thereto as to his competency and qualifications to discharge the duties of mine foreman or fire boss.

Applicants for mine foreman or fire boss certificates shall be at least twenty-three years of age, and shall have had at least five years' practical experience, after fifteen years of age, as miners, superintendent at or inside of the bituminous mines of Pennsylvania and shall be citizens of this Commonwealth and men of good moral character and of known temperate habits.

The said board shall be empowered to grant certificates of competency of two grades, namely: certificates of first grade, to persons who have had experience in mines generating explosive gases and who shall have the necessary qualifications to fulfil the duties of mine foreman in such mines; and certificates of second grade, to persons who give satisfactory evidence of their ability to act as mine foreman in mines not generating explosive gases.

Section 3. The said board of examiners shall meet at the call of the mine inspector and shall grant certificates to all persons whose examination shall disclose their fitness for the duties of mine foreman as above classified, or fire boss, and such certificates shall be sufficient evidence of the holder's competency for the duties of said position so far as relates to the purposes of this act: Provided, That all persons holding certificates of competency granted under the provisions of the act to which this is a supplement shall continue to act under this act: And provided further, That any person acting as mine foreman upon a certificate of service under the act to which this is a supplement may continue to act in the same capacity at any mine where the general conditions affecting the health and safety of the persons employed do not differ materially from those at the mine in which he was acting when said certificate was granted: Provided, however, That if such a mine foreman leaves his present employer and secures employment elsewhere at any mine where in the judgment of the mine inspector of the district the conditions affecting the health and safety of the persons employed do differ materially from those at the mine at which he was employed when his certificate was granted, it shall then be the duty of the mine inspector of the district in which he has secured employment to serve written protest against such mine foreman's employment to the operator of said mine.

Section 4. The examining board shall hold their office for a period of four years from the date from their appointment and shall receive five dollars per day for each day necessarily employed and mileage

at the rate of three cents per mile for each mile necessarily traveled, and all other necessary expenses connected with the examination shall be paid by the Commonwealth. Each applicant before being examined shall pay the examining board the sum of one dollar, and one dollar additional for each certificate granted, which shall be for the use of the Commonwealth. The foregoing examination shall be held annually in each inspection district.

ARTICLE XVI.

Suspension of Certificates of Mine Foreman and Fire Bosses.

Section 1. No person shall act as fire boss in any bituminous coal mines, unless granted a certificate of competency by any one of the several examining boards. All applicants applying to any of the examining boards for fire boss certificates shall undergo an oral examination in the presence of explosive gas, and such certificate shall only be granted to men of good moral character and of known temperate habits, and it shall be unlawful for any operator or superintendent to employ any person as fire boss who has not obtained such certificate of competency as required by this act.

Section 2. If the mine foreman or fire boss shall neglect his duties or has incapacitated himself by drunkenness, or has been incapacitated by any other cause for the proper performance of said duties, and the same shall be brought to the knowledge of the operator or superintendent it shall be the duty of such operator or superintendent to discharge such delinquent at once and notify the inspector of the district of such action, whereupon it shall be the duty of said inspector to inform the court of common pleas of the county who shall issue a citation in the name of the Commonwealth to the said operator, superintendent, mine foreman or fire boss to appear at not less than fifteen days' notice upon a day fixed before said court, at which time the court shall proceed to inquire into and investigate the allegations. If the court finds that the allegations are true, it shall notify the examining board of such finding and instruct the said board to withdraw the certificate of such delinquent during any period of time that said court may deem sufficient, and at the expiration of such time he shall be entitled to a re-examination.

ARTICLE XVII.

Employment of Boys and Females.

Section 1. No boy under the age of twelve years, or any woman or girl of any age, shall be employed or permitted to be in the workings of any bituminous coal mine for the purpose of employment, or for any other purpose; and no boy under the age of sixteen shall be permitted to mine or load coal in any room, entry or other working place, unless in company with a person over sixteen years of age. If

the mine inspector or mine foreman has reason to doubt the fact of any particular boy being as old as this act requires for the service which said boy is performing at any mine, it shall be the duty of said mine inspector or mine foreman to report the fact to the superintendent, giving the name of said boy, and the said superintendent shall at once discharge the said boy.

ARTICLE XVIII.

Stretchers.

Section 1. It shall be the duty of operators or superintendents to keep at the mouth of the drift, shaft, or slope, or at such other place about the mine as shall be designated by the mine inspector, a stretcher properly constructed, and a woolen and a waterproof blanket in good condition for use in carrying away any person who may be injured at the mine: Provided, That where more than two hundred persons are employed two stretchers and two woolen and two waterproof blankets shall be kept. And in mines generating fire-damp a sufficient quantity of linseed or olive oil, bandages and linen shall be kept in store at the mines for use in emergencies, and bandages shall be kept at all mines.

ARTICLE XIX.

Annual Reports.

Section 1. On or before the twenty-fifth day of January in each year the operator or superintendent of every bituminous coal mine shall send to the mine inspector of the district in which said mine is located a correct report, specifying with respect to the year ending the thirty-first day of December preceding, the name of the operator and officers of the mine and the quantity of coal mined. The report shall be in such form and give such information regarding said mines as may be from time to time required and prescribed by the mine inspector of the district. Blank forms for such reports shall be furnished by the Commonwealth.

ARTICLE XX.

Additional Duties of Mine Foreman.

Section 1. Rule 1. The mine foreman shall attend personally to his duties in the mine and carry out all the instructions set forth in this act and see that the regulations prescribed for each class of workmen under his charge are carried out in the strictest manner possible, and see that any deviation from or infringements of any of them are promptly adjusted.

Rule 2. He shall cause all stoppings along the airways to be properly built.

Rule 3. He shall see that the entries at such places where road grades necessitate sprags or brakes to be applied or removed shall have a clear level width of not less than two and one-half feet, between the side of car and the rib to allow the driver to pass his trip safely and keep clear of the cars there.

Rule 4. He shall direct that all miners undermine the coal properly before blasting it and that blasting shall be done at only such hours as he shall direct and shall order the miners to set sprags under the coal, when necessary for safety while undermining at distances not exceeding seven feet apart, and he shall not allow the improper drawing of pillars.

Rule 5. In mines where fire damp is generated when the furnace fire has been put out it shall not be relighted, except in his presence, or that of his assistant under his instructions.

Rule 6. In case of accident to a ventilating fan or its machinery, or the fan itself, whereby the ventilation of the mine would be seriously interrupted, it shall be his duty to order the men to immediately withdraw from the mine and not allow their return to their work until the ventilation has been restored and the mine has been thoroughly examined by him or his assistant and reported to be safe.

Rule 7. He shall see that all dangerous places are properly fenced off and proper danger signal boards so hung on such fencing, that they may be plainly seen; he shall also travel all air roads and examine all the accessible openings to old workings as often as is necessary to insure their safety.

Rule 8. He shall provide a book or sheet to be put in some convenient place, or places, upon which shall be made a place for the numbers used by the miners with space sufficient to each number, so that the miners can write plainly the quantity of props, their approximate length and the number of caps and other timbers which they require, together with the date of the order. Said book or sheets shall be preserved for thirty days from their date.

Duties of Fire Boss.

Rule 9. He shall enter the mine before the men have entered it, and before proceeding to examine the same, he shall see that the air current is traveling in its proper course, and if all seems right, he shall proceed to examine the workings.

Rule 10. He shall not allow any person, except those duly authorized to enter or remain in any part of the mine through which a dangerous accumulation of gas is being passed in the ventilating current from any other part of the mine.

Rule 11. He shall frequently examine the edge and accessible parts of new falls and old gobs and air courses, and he shall report at once any violation of this act to the mine foreman.

Duties of Miners.

Rule 12. He shall examine his working place before beginning work and take down all dangerous slate, or otherwise make it safe by properly timbering the same before commencing to dig or load coal, and in mines where fire bosses are employed, he shall examine his place to see whether the fire boss has left the proper marks indicating his examination thereof, and he shall at all times be very careful to keep his working place in a safe condition during working hours.

Rule 13. Should he at any time find his place becoming dangerous either from gas or roof, or from any unusual condition which may have arisen, he shall at once cease working, and inform the mine foreman or his assistant of such danger, and before leaving such place he shall place some plain warning at the entrance thereto to warn others from entering into the danger.

Rule 14. It shall be the duty of every miner to mine his coal properly and to set sprags under the coal while undermining to secure it from falling and, after each blast, he shall exercise great care in examining the roof and coal and shall secure them safely before beginning work.

Rule 15. When places are liable to generate sudden volumes of fire damp, or where locked safety lamps are used, no miner shall be allowed to fire shots except under the supervision and with the consent of the mine foreman, or his assistant, or other competent person designated by the mine foreman for that purpose.

Duties of Drivers.

Rule 16. When a driver has occasion to leave his trip he must be careful to see that it is left, when possible, in a safe place, secure from cars or other dangers, or from endangering drivers of trip following.

Rule 17. The driver must take great care while taking his trips down grades to have the brakes or sprags so adjusted that he can keep the cars under control and prevent them from running onto himself or others.

Rule 18. He shall not leave any cars standing where they may materially obstruct the ventilating current, except in case of accident to the trip.

Duties of Trip Riders or Runners.

Rule 19. He shall exercise great care in seeing that all hitchings are safe for use and see that all the trip is coupled before starting, and should he at any time see any material defect in the rope, link or chain, he shall immediately remedy such defect or, if unable to do so, he shall detain the trip and report the matter to the mine foreman.

Duties of Engineer.

Rule 20. It shall be the duty of the engineer to keep a careful watch over his engine and all machinery under his charge and see that the boilers are properly supplied with water, cleaned and inspected at proper intervals, and that the steam pressure does not exceed at any time the limit allowed by the superintendent.

Rule 21. He shall make himself acquainted with the signal codes provided for in this act.

Rule 22. He shall not allow any unauthorized person to enter the engine house, neither shall he allow any person to handle or run the engine, without the permission of the superintendent.

Rule 23. When workmen are being raised or lowered he shall take special precautions to keep the engine well under control.

Rule 24. The locomotive engineer must keep a sharp lookout ahead of his engine and sound the whistle or alarm bell frequently when coming near the partings or landings; he must not exceed the speed allowed by the mine foreman or superintendent. He must not allow any person except his attendants, to ride on the engine or on the full cars.

Duties of Firemen.

Rule 25. Every fireman and other person in charge of a boiler or boilers for the generation of steam shall keep a careful watch of the same; he shall see that the steam pressure does not at any time exceed the limit allowed by the superintendent; he shall frequently try the safety-valve and shall not increase the weight on the same; he shall maintain a proper depth of water in each boiler, and if anything should happen to prevent this, he shall report the same without delay to the superintendent, or other person designated by the superintendent, and take such other action as may, under the particular circumstances, be necessary for the protection of life and the preservation of property.

Duties of Fan Engineer.

Rule 26. The engineer in charge of any ventilating fan must keep it running at such speed as the mine foreman directs in writing. In case of accident to the boiler or fan machinery, not requiring the immediate withdrawal of the men from the mine by reason of serious interruption of the ventilation, he shall invariably notify the mine foreman. If ordinary repairs of the fan or machinery becomes necessary, he must give timely notice to the mine foreman and await his instructions before stopping it. He shall also examine at the beginning of each shift all the fan bearings, stays and other parts, and see that they are kept in proper working order. Should it become impossible to run the fan or necessary to stop it to prevent

destruction, he shall then at once stop it and notify the mine foreman immediately and give immediate warning to persons in the mine.

Duties of Furnacemen.

Rule 27. The furnace man must attend to his duties with regularity, and in case he should be likely to be off work for any reason whatever, he must give timely notice to the mine foreman.

Rule 28. The furnace man must at all times keep a clear, brisk fire and the fire must not be smothered with coal or slack during working hours, nor shall he allow ashes to accumulate excessively on or under the bars, or in the approaches to the furnace, and ashes shall be cooled before being removed.

Rule 29. The furnace man must promptly obey the instructions of the mine foreman.

SHAFTS AND SLOPES.

Duties of Hookers-On.

Rule 30. The hookers-on at the bottom of any slope shall be very careful to see that the cars are properly coupled to a rope or chain and that the safety-catch or other device is properly attached to the car before giving the signal to the engineer.

Duties of Cagers.

Rule 31. The cager at the bottom of any shaft shall not attempt to withdraw the car until the cage comes to rest, and when putting the full car on the cage he must be very careful to see that the springs or catches are properly adjusted so as to keep the car in its proper place before giving the signal to the engineer.

Rule 32. At every shaft or slope mine in which provision is made in this act for lowering and hoisting persons, a headman and footman shall be designated by the superintendent or mine foreman, who shall be at their proper places from the time that persons begin to descend until all the persons who may be at the bottom of said shaft or slope, when quitting work, shall be hoisted; such headman and footman shall personally attend to the signals and see that the provisions of this act in respect to lowering or hoisting persons in shafts or slopes shall be complied with.

Rule 33. He shall not allow any tools to be placed on the same cage with men or boys, nor on either cage when persons are being hoisted out of the mine, or being lowered into the mine, except when for the purpose of repairing the shaft or machinery therein. The men shall place their tools in cars provided for that purpose which car, or cars, shall be hoisted or lowered before and after the men have been hoisted or lowered. And he shall immediately inform the mine foreman of any violation of this rule.

Rule 34. He shall also see that no driver, or other person, ascends the shaft with any horse or mule, unless the said horse or mule is secured in a suitable box, or safely penned, and only the driver in charge of said horse or mule shall accompany it in any case.

Duties of Top Man.

Rule 35. The top man of any slope, or incline plane, shall be very careful to close the safety block, or other device, as soon as the cars have reached the landing so as to prevent any loose or runaway cars from descending the slope, or incline plane, and in no case shall such safety block, or other device, be withdrawn until the cars are coupled to the rope or chain and the proper signal given. He shall carefully inspect daily all the machinery in and about the check house, and the rope used for lowering the coal and promptly report any defect discovered to the superintendent, and shall use great care in attaching securely the wagons or cars to the rope and carefully lower the same down the incline. He shall ring the alarm bell in case of accident, and when necessary immediately set free to act, the drop logs or safety switch.

Rule 36. The top man of any shaft shall see that the springs or keeps for the cage to rest upon are kept in good working order, and when taking the full car off he must be careful that no coal or other material is allowed to fall down the shaft.

Rule 37. He shall be at his proper place from the time that persons begin to descend until all the persons who may be at the bottom of said shaft or slope when quitting work shall be hoisted. Such headman and footman shall personally attend to the signals, and see that the provisions of this act in respect to lowering and hoisting persons in shafts or slopes shall be complied with.

Rule 38. He shall not allow any tools to be placed on the same cage with men or boys, nor on either cage when persons are being lowered into the mine, except when for the purpose of repairing the shaft or the machinery therein. The men shall place their tools in cars provided for that purpose, which car or cars shall be lowered before and after the men have been lowered.

Rule 39. He shall also see that no driver, or other person, descends the shaft with any horse or mule, unless the said horse or mule is secured in a suitable box or safely penned, and only the driver in charge of said horse or mule shall accompany it in any case.

General Rules.

Rule 40. If any person shall receive any injury in or about the mine and the same shall come within the knowledge of the mine foreman, and if he shall be of the opinion that the injured person

requires medical or surgical treatment, he shall see that said injured person receives the same, and in case of inability of such injured person to pay therefor the same shall be borne by the county. The mine foreman shall report monthly to the mine inspector of the district on blanks furnished by said inspector for that purpose, all accidents resulting in personal injury.

Rule 41. No unauthorized person shall enter the mine without permission from the superintendent or mine foreman.

Rule 42. No person in a state of intoxication shall be allowed to go into or loiter about the mine.

Rule 43. All employes shall inform the mine foreman or his assistant of the unsafe condition of any working place, hauling roads or traveling ways, or of damage to doors, brattices or stoppings, or of obstructions in the air passages when known to them.

Rule 44. No person shall be employed to blast coal, rock or slate, unless the mine foreman is satisfied that such a person is qualified by experience to perform the work with ordinary care.

Rule 45. The mine superintendent or mine foreman shall cause to be constructed safety blocks or some other device for the purpose of preventing cars from falling into the shaft, or running away on slopes or incline planes; and safety switches, drop logs or other device shall be used on all slopes and incline planes; and said safety blocks, safety switches or other device must be maintained in good working order.

Rule 46. Every workman employed in the mine shall examine his working place before commencing work, and after any stoppage of work during the shift he shall repeat such examination.

Rule 47. No person shall be allowed to travel on foot to or from his work on any incline plane, dilly or locomotive roads, when other good roads are provided for that purpose.

Rule 48. Any employe or other person who shall wilfully deface, pull down or destroy any notice board, danger signal, general or special rules or mining laws, shall be prosecuted as provided for in section two, article twenty-one of this act.

Rule 49. No powder or high explosive shall be taken into the mine in greater quantities than required for use in one shift, unless such quantity be less than five pounds, and all powder shall be carried into the mine in metallic canisters.

Rule 50. Powder in quantities exceeding twenty-five pounds, or other explosives in quantities exceeding ten pounds, shall not be stored in any tipple or any weighing office, nor where workmen have business to visit, and no naked lights shall be used while weighing and giving out powder.

Rule 51. All persons except those duly authorized, are forbidden to meddle or tamper in any way with any electric or signal wires in or about the mines.

Rule 52. No greater number of persons shall be hoisted or lowered at any one time in any shaft than is permitted by the mine inspector, and whenever said number of persons shall arrive at the bottom of the shaft in which persons are regularly hoisted or lowered, they shall be furnished with an empty cage and be hoisted, and in cases of emergency a less number shall be promptly hoisted. Any person or persons crowding or pushing to get on or off the cages shall be deemed guilty of a misdemeanor.

Rule 53. Each workman, when engaged shall have his attention directed to the general and special rules by the person employing him.

Rule 54. Workmen and all other persons are expressly forbidden to commit any nuisance or throw into, deposit, or leave coals or dirt, stones or other rubbish in the air way or road so as to interfere with, pollute, or hinder the air passing into and through the mine.

Rule 55. No one, except a person duly authorized by the mine foreman, shall have in his possession a key or other instrument for the purpose of unlocking any safety lamp in any mine where locked safety lamps are used.

Rule 56. Every abandoned slope, shaft, air hole or drift shall be properly fenced around or across its entrance.

Rule 57. No safety lamps shall be entrusted to any person for use in mines until he has given satisfactory evidence to the mine foreman that he understands the proper use thereof and danger of tampering with the same.

Rule 58. No person shall ride upon or against any loaded car or cage in any shaft or slope in or about any bituminous coal mine; no person other than the trip runner shall be permitted to ride on empty trips on any slope, inclined plane or dilly road, when the speed of the cars exceeds six miles per hour. The transportation of tools in and out of the mines shall be under the direction of the mine foreman.

Rule 59. No persons other than the drivers or trip runners shall be permitted to ride on the full cars.

Rule 60. In mines where coal dust has accumulated to a dangerous extent, care shall be exercised to prevent said dust from floating in the atmosphere by sprinkling it with water, or otherwise, as far as practicable.

Rule 61. In cutting of clay veins, spars or faults in entries, or other narrow workings going into the solid coal in mines where explosive gases are generated in dangerous quantities, a bore hole shall be kept not less than three feet in advance of the face of the work, or an advance of any shot hole drilled for a blast to be fired therein.

Rule 62. The engineer placed in charge of an engine whereby persons are hoisted out of or lowered into any mine shall be a sober competent person, and not less than twenty-one years of age.

Rule 63. When a workman is about to fire a blast he shall be careful to notify all persons who might be endangered thereby, and shall give sufficient alarm so that any person or persons approaching shall be warned of the danger.

Rule 64. In every shaft or slope where persons are hoisted or lowered by machinery, as provided by this act, a topman and cager shall be appointed by the superintendent or mine foreman.

Rule 65. Whenever a workman shall open a box containing powder or other explosives, or while in any manner handling the same, he shall first place his lamp not less than five feet from such explosive and in such a position that the air current cannot convey sparks to it, and he shall not smoke while handling explosives.

Rule 66. An accumulation of gas in mines shall not be removed by brushing.

Rule 67. When gas is ignited by blast or otherwise, the person having charge of the place where the said gas is ignited, shall immediately extinguish it if possible, and if unable to do so shall immediately notify the mine foreman or his assistants of the fact. Workmen must see that no gas blowers are left burning upon leaving their working places.

Rule 68. All ventilating fans used at mines shall be provided with recording instruments by which the number of revolutions or the effective ventilating pressure of the fan shall be registered and the registration with its date for each and every day shall be kept in the office of the mine for future reference for one year from its date.

Rule 69. Where the clothing or wearing apparel of employes becomes wet by reason of working in wet places in the mines, it shall be the duty of the operator or superintendent of each mine, at the request in writing of the mine inspector, who shall make such request upon the petition of any five miners of any one mine in the district working in the aforesaid wet places, to provide a suitable building which shall be convenient to the principal entrances of such mine for the use of the persons employed in wet places therein for the purpose of washing themselves and changing their clothes when entering the mine and returning therefrom. The said building shall be maintained in good order and be properly lighted and heated and shall be provided with facilities for persons to wash. If any person or persons shall neglect or fail to comply with the provisions of this article or maliciously injure or destroy, or cause to be injured or destroyed, the said building or any part thereof, or any of the appliances or fittings used for supplying light and heat therein, or doing any act tending to the injury or destruction thereof, he or they shall be deemed guilty of an offense against this act.

Rule 70. In all shafts and slopes where persons, coal or other materials are hoisted by machinery the following code of signals shall be used:

One rap or whistle to hoist coal or other material.

One rap or whistle to stop cage or car when in motion.

Two raps or whistles to lower cage or car.

Three raps or whistles when persons are to be hoisted, and for engineer to signal back ready when persons are to be hoisted, after which persons shall get on the cage or car, then one rap shall be given to hoist.

Four raps or whistles, to turn on steam to the pumps.

But a variation from the above code of signals may be used by permission of the mine inspector: Provided, That in any such case such changed code shall be printed and posted.

Rule 71. No person or persons shall go into any old shaft or abandoned part of the mine or into any other place which is not in actual course of working without permission from the mine foreman, nor shall they travel to and from their work except by the traveling way assigned for that purpose.

Rule 72. No steam pipes through which high pressure steam is conveyed for the purpose of driving pumps or other machinery, shall be permitted on traveling or haulage ways, unless they are encased in asbestos, or some other suitable non-conducting material, or are so placed that the radiation of heat into the atmosphere of the mine will be prevented as far as possible.

Rule 73. Where a locomotive is used for the purpose of hauling coal out of a mine, the tunnel or tunnels through which the locomotive passes shall be properly ventilated and kept free as far as practicable of noxious gases, and a ventilating apparatus shall be provided by the operator to produce such ventilation when deemed necessary and practicable to do so by the mine inspector.

Rule 74. No inexperienced person shall be employed to mine out pillars unless in company with one or more experienced miners, and by their consent.

ARTICLE XXI.

Penalties.

Section 1. Any person or persons whomsoever, who shall intentionally or carelessly injure any shaft, safety lamp, instrument, aircourse or brattice, or obstruct or throw open air ways, or take matches for any purpose, or pipes or other smokers' articles beyond any station inside of which locked safety lamps are used, or injure any part of the machinery, or open a door in the mine and not close it again immediately or open any door which opening is forbidden, or disobey any order given in carrying out the provisions of this act, or do any other act whatsoever whereby the lives or the health of persons or the security of the miners or the machinery is endangered, shall be deemed guilty of a misdemeanor and may be punished in a manner provided for in this article.

Section 2. The neglect or refusal to perform the duties required to be performed by any section of this act by the parties therein required to perform them, or the violation of any of the provisions or requirements hereof, shall be deemed a misdemeanor and shall upon conviction thereof in the court of quarter sessions of the county wherein the misdemeanor was committed, be punishable by a fine not exceeding five hundred dollars or imprisonment in the county jail for a period not exceeding six months, or both, at the discretion of the court.

Section 3. That for any injury to person or property occasioned by any violation of this act, or any failure to comply with its provisions by any owner, operator or superintendent of any coal mine or colliery, a right of action shall accrue to the party injured against said owner or operator for any direct damages he may have sustained thereby, and in case of loss of life by reason of such neglect or failure aforesaid, a right of action shall accrue to the widow and lineal heirs of the person whose life shall be lost for like recovery of damages for the injury they shall have sustained.

ARTICLE XXII.

Definition.

Section 1. Coal Mine. In this act the term "coal mine" includes the shafts, slopes, adits, drifts or inclined planes connected with excavations penetrating coal stratum or strata, which excavations are ventilated by one general air current or divisions thereof and connected by one general system of mine railroads over which coal may be delivered to one or more common points outside the mine, when such is operated by one operator.

Excavations and Workings. The term "excavations and workings" includes all the excavated parts of a mine, those abandoned as well as the places actually being worked, also all underground workings and shafts, tunnels and other ways and openings, all such shafts, slopes, tunnels and other openings in the course of being sunk or driven, together with all roads, appliances, machinery and material connected with the same below the surface.

Shaft. The term "shaft" means a vertical opening through the strata, and which is or may be used for the purpose of ventilation or drainage or for hoisting men or material or both in connection with the mining of coal.

Slope. The term "slope" means an incline way or opening used for the same purpose as a shaft.

Operator. The term "operator" means any firm, corporation or individual operating any coal mine or part thereof.

Superintendent. The term "superintendent" means the person who shall have, on behalf of the operator, immediate supervision of one or more mines.

Bituminous Mines. The term "bituminous" coal mines shall include all coal mines in the State not now included in the anthracite boundaries.

The provisions of this act shall not apply to any mine employing less than ten persons in any one period of twenty-four hours.

ARTICLE XXIII.

Section 1. That all acts or parts of acts inconsistent herewith be and the same are hereby repealed.

Approved—The 15th day of May, A. D. 1893.

ROBT. E. PATTISON.

AN ACT

Equalizing and fixing the compensation and mileage of the members of the several boards appointed under the provisions of the act approved June second, one thousand eight hundred and ninety-one, to examine candidates for appointment as Inspectors, foremen and fire bosses, respectively, in the anthracite coal mines, and providing for the employment and compensation and mileage of a clerk to each of said boards.

Section 1. Be it enacted, &c., That from and after the passage of this act the members of the several boards appointed under the provisions of the act approved June second, one thousand eight hundred and ninety-one, to examine candidates for appointment respectively as inspectors and foremen of anthracite coal mines, shall receive in lieu of all compensation, mileage, expenses, emoluments or allowances heretofore paid them, as follows: Six dollars per day for each day during which the said members shall be actually in attendance on the sessions of the board, and mileage at the rate of five cents for each mile actually traveled going from the home of the member to the place of meeting of the board and returning from said place to his said home by the shortest practicable railway route: Provided, That mileage shall be paid but once for each continuous session of the board, and by a continuous session shall be meant a session during the course of which no adjournment for a longer period than forty-eight hours shall take place.

Section 2. Each of the boards enumerated or described in the first section of this act shall be and the same is hereby authorized to employ a clerk, whose compensation and mileage shall be the same as that of a member of the board. So much of section four of the act

of June second, one thousand eight hundred and ninety-one, as authorizes the boards of examiners of candidates for inspectors of anthracite coal mines to engage the services of a clerk is hereby repealed, and all clerks hereafter appointed by the several boards hereinbefore mentioned shall be appointed under the provisions of this act.

Section 3. The members of the said boards shall, on the final adjournment of each session of their respective boards, submit to the Auditor General sworn statements approved by the president or chairman of their respective boards, setting forth the number of days during which each member shall have been actually in attendance on the sessions of the board of which he is a member during said session, as well as the distance from the home of the member to the place of meeting of his board as aforesaid, by the nearest practicable railway route, and the number of miles actually traveled by him; and the clerks of said boards shall submit like statements, and the Auditor General shall, upon the receipt of such sworn statements draw his warrant upon the State Treasurer in favor of each of such members and clerks for such sums as shall appear to be properly due each.

Section 4. All acts and parts of acts or supplements thereto in conflict herewith are hereby repealed.

Approved—The 26th day of June, A. D. 1895.

DANIEL H. HASTINGS.

AN ACT

For the better protection of employes in and about the coal mines by preventing mine superintendent, mine foremen and assistants from receiving or soliciting any sums of money or other valuable consideration from men while in their employ, and providing a penalty for violation of the same.

Section 1. Be it enacted, &c., That on and after the passage of this act any mine superintendent, mine foreman or assistant foreman, or any other person or persons who shall receive or solicit any sum of money or other valuable consideration, from any of his or their employes for the purpose of continuing in his or their employ, shall be guilty of a misdemeanor, and upon conviction shall be subject to a fine not less than fifty dollars, nor more than three hundred dollars, and undergo an imprisonment of not less than six months, or both, at the discretion of the court.

Section 2. All acts or parts of acts inconsistent herewith be and the same are hereby repealed.

Approved—The 15th day of June, A. D. 1897.

DANIEL H. HASTINGS.

AN ACT

Establishing a Bureau of Mines in the Department of Internal Affairs of Pennsylvania, defining its purposes and authority, providing for the appointment of a chief of said bureau and assistants, and fixing their salaries and expenses.

Section 1. Be it enacted, &c., That there is hereby established in the Department of Internal Affairs of Pennsylvania a bureau to be known as the Bureau of Mines, which shall be charged with the supervision of the execution of the mining laws of this Commonwealth, and the care and publication of the annual reports of the inspectors of coal mines.

Section 2. The chief officer of the bureau shall be denominated Chief of the Bureau of Mines, and shall be appointed by the Governor, by and with the advice and consent of the Senate, within thirty days after the final passage of this act, and every four years thereafter, who shall be commissioned by the Governor to serve a term of four years from the date of his appointment, and until his successor is duly qualified, and shall receive an annual salary of three thousand dollars and traveling expenses; and in case of a vacancy in the office of Chief of said Bureau, by reason of death, resignation or otherwise, the Governor shall appoint a qualified person to fill such vacancy for the unexpired balance of the term.

Section 3. The Chief of the Bureau of Mines shall be a competent person having had at least ten years practical experience in the working and ventilation of coal mines of this State, and a practical and scientific knowledge of all noxious and dangerous gases found in such mines. The said Chief of the Bureau of Mines so appointed shall, before entering upon the duties of his office, take and subscribe to the oath of office prescribed by the Constitution, the same to be filed in the office of the Secretary of the Commonwealth, and give to the Commonwealth a bond in the penal sum of ten thousand dollars, with surety to be approved by the Governor and Secretary of Internal Affairs, conditioned for the faithful discharge of the duties of his office.

Section 4. It shall be the duty of the Chief of the Bureau to devote the whole of his time to the duties of his office, and to see that the mining laws of this State are faithfully executed; and for this

purpose he is hereby invested with the same power and authority as the mine inspectors to enter, inspect and examine any mine or colliery within the State, and the works and machinery connected therewith, and to give such aid and instruction to the mine inspectors from time to time as he may deem best calculated to protect the health and promote the safety of all persons employed in and about the mines, and the said Chief of the Bureau of Mines shall have the power to suspend any mine inspector for any neglect of duty, but such suspended mine inspector shall have the right to appeal to the Secretary of Internal Affairs, who shall be empowered to approve of such suspension or restore such suspended mine inspector to duty, after investigating the causes which led to such suspension. Should the Chief of the Bureau of Mines receive information by petition, signed by ten or more miners, or one or more operators, setting forth that any of the mine inspectors are neglectful of their duty, or are incompetent to perform the duties of their office, or are guilty of malfeasance in office, he shall at once investigate the matter, and if he shall be satisfied that the charge or charges are well founded, he shall then petition the court of common pleas, or the judge in chambers, in any county within or partly within the inspection district of the said mine inspector; which court, upon receipt of said petition and a report of the character of the charges and testimony produced, shall at once issue a citation in the name of the Commonwealth to the said inspector, to appear on not less than fifteen days' notice, on a fixed day before said court, at which time the court shall proceed to inquire into the allegations of the petitioners, and may require the attendance of such witnesses on the subpoena issued and served by the proper officer or officers, as the judge of the court and the Chief of said Bureau may deem necessary in the case; the inspector under investigation shall also have similar power and authority to compel the attendance of witnesses in his behalf. If the court shall find by said investigation that the said mine inspector is guilty of neglecting his official duties, or is incompetent to perform the duties of his office, or is guilty of mal feasance in office, the said court shall certify the same to the Governor, who shall declare the office vacant, and shall proceed to supply the vacancy as provided for by the mining laws of this State. The cost of said investigation shall, if the charges are sustained, be imposed upon the mine inspector, but if the charges are not sustained the cost shall be paid out of the State Treasury, upon voucher or vouchers duly certified as to correctness by the judge or proper officer of the court where such proceedings are held. To enable the said Chief of the Bureau of Mines to conduct more effectually his examinations and investigations of the charges and complaints which may be made by petitioners against any of the mine inspectors as

herein provided, he shall have power to administer oaths and take affidavits and depositions in form and manner provided by law: Provided however, That nothing in this section shall be construed as to repeal section thirteen of article two of the act of Assembly approved the second day of June, Anno Domini one thousand eight hundred and ninety-one, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," and also articles thirteen and fourteen of an act of Assembly approved the fifteenth day of May, Anno Domini one thousand eight hundred and ninety-three, entitled "An act relating to bituminous coal mines, and providing for the lives, health, safety and welfare of persons employed therein."

Section 5. It shall be the duty of the Chief of the Bureau of Mines to take charge of and preserve in his office the annual reports of the mine inspectors, and transmit a copy of them, together with such other statistical data compiled therefrom and other matter relating to the work of the Bureau as may be of public interest, properly addressed to the Secretary of Internal Affairs for transmission to the Governor and the General Assembly of this Commonwealth, on or before the first day of March in each year. It shall also be the duty of the Chief of the Bureau of Mines to see that said reports, or copy of them, are placed in the hands of the Public Printer for publication at the same date; the same to be published under direction of the Secretary of Internal Affairs as other reports of his Department are now required by law to be published, and in order that the Chief of said Bureau may be able to prepare, compile and transmit his annual report to the Secretary of Internal Affairs within the time herein specified, the mine inspectors are hereby required to deliver their annual reports to the Secretary of Internal Affairs on or before the fifteenth day of February in each year. In addition to the annual reports herein required of the mine inspectors, the said mine inspectors shall furnish the Chief of the Bureau of Mines, monthly and also such special reports or information on any subject regarding mine accidents or other matters pertaining to mining interests, or the safety of persons employed in mines as he at any time may require or may deem necessary in the proper and lawful discharge of his official duties. The Chief of the Bureau of Mines shall also establish as far as may be practicable a uniform style and size of blanks for the annual, monthly and special reports of the mine inspectors, and prescribe the form and character of subject matter to be embraced in the text and the tabulated statements of their reports. The Chief of the Bureau of Mines is hereby authorized to make such examinations and investigations as may enable him to report upon the various systems of

coal mining practiced in the State, method of mining, ventilation, machinery employed, structure and character of the several coal seams operated, and of the associated strata, the circumstances and responsibility of mine accidents, economy of coal production, coal waste, area and exhaustion of coal territory, and such other matters as may pertain to the general welfare of coal miners and others connected with coal mining, and the interests of coal mine owners and operators in this Commonwealth.

Section 6. The Chief of the Bureau of Mines shall keep in his office a journal or record of all examinations made and work done under his administration, and copies of all official communications, and is hereby authorized to procure such books, instruments and chemical or other tests as may be found necessary to the proper discharge of his duties under this act, at the expense of the State. All instruments, plans, books and records pertaining to the office shall be the property of the State, and shall be delivered to his successor in office.

Section 7. The Chief of the Bureau of Mines shall at all times be accountable to the Secretary of Internal Affairs for the faithful discharge of the duties imposed upon him by law, and the administration of his office and the rules and regulations pertaining to said Bureau shall be subject to the approval of the Secretary of Internal Affairs, who is hereby empowered to appoint an assistant to the Chief of the Bureau, at a salary of fourteen hundred dollars per annum, and a messenger at a salary of three hundred dollars per annum: And provided further, That the salaries of the Chief of the Bureau of Mines, his assistant and the messenger, shall be paid out of the State Treasury in the manner as other employes of the Department of Internal Affairs are now paid. Provided, That the Chief of said Bureau of Mines may be removed or suspended at any time by the Secretary of Internal Affairs, when in the opinion of said Secretary there has been a neglect of duty or a failure to comply with the law, or the instructions of the Secretary of Internal Affairs.

Section 8. No person who is acting as a land agent, or as manager, viewer or agent of any mine or colliery, or who is interested in operating any mine or colliery, shall at the same time serve as Chief of the Bureau of Mines under the provisions of this act.

Section 9. That the mine inspectors of each district of this State shall, within six months after the final passage and approval of this act, deposit in the Bureau of Mines an accurate map or plan of such coal mine, which may be on tracing muslin or sun print, drawn to a prescribed scale; which map or plan shall show the actual location of all openings, excavations, shafts, tunnels, slopes, planes, main

headings, cross headings, and rooms or working places in each strata operated; pump, fans or other ventilation apparatus, the entire course and direction of air currents, the relation and proximity of the workings of such coal mines to all other adjoining mines or coal lands, and the relative elevation of all tunnels and headings, and of the face of working places near to or approaching boundary lines or adjacent mines; and on or before the close of each calendar year transmit to the Chief of the Bureau of Mines a supplemental map or plan showing all excavations, changes and additions made in such mine during the year, drawn to the scale as the first mentioned map or plan. All such maps or plans to be and remain in the Bureau of Mines as a part of the records of that office.

Section 10. All acts or parts of acts inconsistent with this act be and the same are hereby repealed.

Approved—The 15th day of July, A. D. 1897.

DANIEL H. HASTINGS.

AN ACT

Requiring the weighing of bituminous coal before screening, and providing a penalty for the violation thereof.

Section 1. Be it enacted, &c., That it shall be unlawful for any mine owner, lessee or operator of any bituminous coal mine in this Commonwealth, employing miners at bushel or ton rates, or other quantity, to pass the output of coal mined by said miners over any screen or other device which shall take any part from the weight, value or quantity thereof, before the same shall have been weighed and duly credited to the employe sending the same to the surface and accounted for at the legal rate of weight fixed by laws of this Commonwealth.

Section 2. Any owner, lessee or operator of any bituminous coal mine, violating the provisions of this act, shall be deemed guilty of a misdemeanor, and shall, upon conviction, for each and every such offense be punished by a fine of not less than one hundred ($100) dollars nor more than five hundred ($500) dollars, or by imprisonment in the county jail for a period not to exceed ninety days, or by both such fine and imprisonment, at the discretion of the court; proceedings to be instituted in any court of competent jurisdiction.

Section 3. All acts or parts of acts inconsistent herewith be and the same are hereby repealed.

Approved—The 15th day of July, A. D. 1897.

DANIEL H. HASTINGS.

AN ACT

To protect the lives and limbs of miners from the dangers resulting from incompetent miners working in the anthracite coal mines of this Commonwealth, and to provide for the examination of persons seeking employment as miners in the anthracite region, and to prevent the employment of incompetent persons as miners in anthracite coal mines, and providing penalties for a violation of the same.

Section 1. Be it enacted, &c., That hereafter no person whomsoever shall be employed or engaged in the anthracite coal region of this Commonwealth, as a miner in any anthracite coal mine, without having obtained a certificate of competency and qualification so to do from the "Miners' Examining Board" of the proper district, and having been duly registered as herein provided.

Section 2. That there shall be established in each of the eight inspection districts in the anthracite coal region, a board to be styled the "Miners' Examining Board" of the .....district, to consist of nine miners who shall be appointed in the same manner as the boards to examine mine inspectors are now appointed from among the most skillful miners actually engaged in said business in their respective districts, and who must have had five years' practical experience in the same. The said persons so appointed shall each serve for a term of two years from the date on which their appointment takes effect, and they shall be appointed upon or before the expiration of the term of the present members of the "Miners' Examining Board," and they shall be and constitute the "Miners' Examining Board" for their respective districts, and shall hold the office for the term for which they were appointed, or until their successors are duly appointed and qualified, and shall receive as compensation for their services three dollars per day for each day actually engaged in this service, and all legitimate and necessary expenses incurred in attending the meetings of said board under the provisions of this act, and no part of the salary of said board or expenses thereof shall be paid out of the State Treasury.

Each of said boards shall organize by electing one of their members president, and one member as secretary, and by dividing them

selves in to three sub-committees for the more convenient discharge of their duties, each of said committees shall have all powers hereinafter conferred upon the board; and whenever in this act the words "Examining Board" are used, they shall be taken to include any of the committees thereof.

Every member of said board shall, within ten days of their appointment or being apprised of the same, take and subscribe an oath or affirmation before a properly qualified officer of the county in which they reside, that they will faithfully and impartially discharge the duties of their office.

Any vacancies occurring in said board shall be filled in the manner hereinbefore provided from among such only as are eligible for original appointment.

Section 3. Each of said examining boards shall designate some convenient place within their districts for the meeting of the several committees thereof, and of which due notice shall be given by advertisement in two or more newspapers of the proper county, and so divided as to reach as nearly as practicable all the mining districts therein; but in no case shall such meeting be held in a building where any intoxicating liquors are sold.

Each of said committee shall open at the designated place of meeting a book of registration, in which shall be registered the name and address of each and every person duly qualified under this act to be employed as a miner in an anthracite coal mine. And it shall be the duty of all persons employed as miners to be properly registered, and in case of a removal from the district in which a miner is registered, it shall be his duty to be registered in the district to which he removes.

Application for registration only may be sent by mail to the board. after being properly attested before any person authorized to administer an oath or affirmation in the county in which the applicant resides. The form of application shall be subject to such regulation as may be prescribed by the boards, but in no case shall any applicant be put to any unnecessary expense in order to secure registration.

Section 4. Each applicant for examination and registration and for the certificate hereinafter provided, shall pay a fee of one dollar to the said board, and a fee of twenty-five cents shall be charged for registering any person who shall have been examined and registered by any other board, and the amount derived from this source shall be held by said boards and applied to the expenses and salaries herein provided and such as may arise under the provisions of this act; and the said boards shall report annually, to the court of common pleas of their respective counties and the Bureau of Mines and Mining all moneys received and disbursed under the provisions of

this act, together with the number of miners examined and registered under this act and the number who failed to pass the required examination.

Section 5. That it shall be the duty of each of the said boards to meet once every month and not oftener, and said meeting shall be public, and if necessary, the meeting shall be continued to cover whatever portion may be required of a period of three days in succession, and examine under oath all persons who shall desire to be employed as miners in their respective districts; and said board shall grant such persons as may be qualified, certificates of competency or qualification which shall entitle the holder thereof to be employed as and to do the work of miners as may be expressed in said certificate, and such certificates shall be good and sufficient evidence of registration and compentency under this act; and the holder thereof shall be entitled to be registered without an examination in any other of the anthracite districts upon the payment of the fee herein provided.

All persons applying for a certificate of competency, or to entitle them to be employed as miners, must produce satisfactory evidence of having had not less than two years practical experience as a miner, or as a mine laborer in the mines of this Commonwealth, and in no case shall an applicant be deemed competent unless he appear in person before the said board and answer intelligently and correctly at least twelve questions in the English language pertaining to the requirements of a practical miner, and be perfectly identified under oath, as a mine laborer by at least one practical miner holding miners' certificates. The said board shall keep an accurate record of the proceedings of all its meetings, and in said record shall show a correct detailed account of the examination of each applicant, with the questions asked and their answer, and at each of its meetings the board shall keep said record open for public inspection. Any miner's certificate granted under the provisions of this act, and the hereinafter mentioned act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine, shall not be transferable to any person or persons whatsoever, and any transfer of the same shall be deemed a violation of this act. Certificates shall be issued only at meetings of said board, and said certificates shall not be legal unless then and there signed in person by at least three members of said board.

Section 6. That no person shall hereafter engage as a miner in any anthracite coal mine without having obtained such certificate as aforesaid. And no person shall employ any person as a miner who does not hold such certificate as aforesaid, and no mine foreman or superintendent shall permit or suffer any person to be employed

under him, or in the mines under his charge and supervision as a miner, who does not hold such certificates. Any person or persons who shall violate or fail to comply with the provisions of this act, shall be guilty of a misdemeanor, and on conviction thereof shall be sentenced to pay a fine not less than one hundred dollars and not to exceed five hundred dollars, or shall undergo imprisonment for a term not less than thirty days and not to exceed six months, or either, or both, at the discretion of the court.

Section 7. The persons who are now serving as members of the Miners' Examining Board as created by the act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine, entitled "An act to provide for the examination of miners in the anthracite region of this Commonwealth, and to prevent the employment of incompetent persons as miners in anthracite coal mines," shall continue under the provisions of this act to serve as members of the "Miners' Examining Board" until the terms for which they were appointed under the provisions of the said act approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine, shall have expired, and in the performance of the duties of their office they shall be subject to the provisions and requirements of this act.

Section 8. Nothing in this act shall be construed to in any way, excepting as herein provided, effect miners' certificates which have been lawfully issued under the provisions of the herein mentioned act, approved the ninth day of May, Anno Domini one thousand eight hundred and eighty-nine.

Section 9. It shall be the duty of the several Miners' Examining Boards to investigate all complaints or charges of non compliance or violation of the provisions of this act, and to prosecute all persons so offending; and upon their failure so to do, then it shall become the duty of the district attorney of the county wherein the complaints or charges are made to investigate the same and prosecute all persons so offending, and it shall at all times be the duty of the district attorney to prosecute such members of the Miners' Examining Board as have failed to perform their duty under the provisions of this act; but nothing herein contained shall prevent any citizen, a resident of this Commonwealth, from prosecuting any person or persons violating this act, with power to employ private counsel to assist in the prosecution of the same; upon conviction of any member of the Miners' Examining Board for any violation of this act, in addition to the penalties herein provided, his office shall be declared vacant, and he shall be deemed ineligible to act as a member of the said board.

Section 10. For the purposes of this act the members of the said "Miners' Board" shall have power to administer oaths.

Section 11. All acts or parts of acts inconsistent herewith are hereby repealed.

Approved—The 15th day of July, A. D. 1897.

DANIEL H. HASTINGS.

AN ACT

To amend the tenth section of article ten of an act, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," approved the second day of June, Anno Domini one thousand eight hundred and ninety-one, providing that self-acting doors are used.

Section 1. Be it enacted, &c., That the tenth section of article ten of an act, entitled "An act to provide for the health and safety of persons employed in and about the anthracite coal mines of Pennsylvania, and for the protection and preservation of property connected therewith," approved the second day of June, Anno Domini one thousand eight hundred and ninety-one, which reads as follows:

"All main doors shall have an attendant whose constant duty it shall be to open them for transportation and travel and prevent them from standing open longer than is necessary for persons or cars to pass through," be and the same is hereby amended to read as follows:

All main doors shall have an attendant, whose constant duty it shall be to open them for transportation and travel and prevent them from standing open longer than is necessary for persons or cars to pass through, unless a self-acting door is used which is approved by the inspector of the district.

Approved—The 20th day of April, A. D. 1899.

WILLIAM A. STONE.

AN ACT

To amend section four of article eight of an act, entitled "An act relating to bituminous coal mines and providing for the lives, health, safety and welfare of persons employed therein," approved the fifteenth day of May, Anno Domini one thousand eight hundred and ninety-three permitting the use of mineral oils in bituminous mines when used in approved safety lamps.

Section 1. Be it enacted, &c., That section four of article eight of an act, entitled "An act relating to bituminous coal mines and providing for the lives, health, safety and welfare of persons employed

therein," approved the fifteenth day of May, Anno Domini one thousand eight hundred and ninety-three, which reads as follows:

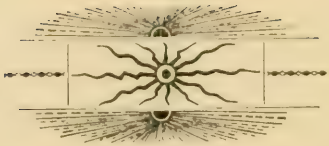
"Section 4. No explosive oil shall be used or taken into bituminous coal mines for lighting purposes and oil shall not be stored or taken into the mines in quantities exceeding five gallons. The oiling or greasing of cars inside of the mines is strictly forbidden unless the place where said oil or grease is used is thoroughly cleaned at least once every day to prevent the accumulation of waste oil or grease on the roads or in the drains at that point. Not more than one barrel of lubricating oil shall be permitted in the mine at any one time. Only a pure animal or pure cotton-seed oil or oils that shall be as free from smoke as pure animal or pure cotton-seed oil shall be used for illuminating purposes in any bituminous mine. Any person found knowingly using explosive or impure oil contrary to this section shall be prosecuted as provided for in section two of article twenty-one of this act," be and the same is hereby amended to read as follows:

Section 4. No explosive oil shall be used or taken into bituminous coal mines for lighting purposes except when used in approved safety lamps and oil shall not be stored or taken into the mines in quantities exceeding five gallons. The oiling or greasing of cars inside of the mines is strictly forbidden unless the place where said oil or grease is used is thoroughly cleaned at least once every day to prevent the accumulation of waste oil or grease on the roads or in the drains at that point. Not more than one barrel of lubricating oil shall be permitted in the mine at any one time. Only a pure animal oil or pure cotton-seed oil or oils that shall be as free from smoke as pure animal or pure cotton-seed oil shall be used for illuminating purposes in any bituminous mine. Any person found knowingly using explosive or impure oil contrary to this section shall be prosecuted as provided for in section two of article twenty-one of this act.

Approved—The 28th day of April, A. D. 1899.

WILLIAM A. STONE.

ANTHRACITE MINE DISTRICTS.



First Anthracite District.

LACKAWANNA, SUSQUEHANNA AND WAYNE COUNTIES.

Scranton, Pa., February 21, 1900.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor of herewith submitting for your consideration my annual report as Inspector of Coal Mines for the First Anthracite District for the year 1899.

There were 7,374,571 tons of coal produced, being 858,781 tons more than the production of the preceding year. Sixty-eight fatal accidents occurred, which is an increase of 17 over those of 1898. The number of non-fatal casualties was 116, being a decrease of 10. The aggregate number, however, was 184, while that of the year before was 177, hence, a total increase of 7 against an increased production of 858,781 tons. Thirty-eight wives were made widows by the accidents, and 81 children under 14 years of age were left fatherless.

The average number of days worked was 174.2, against 153.3 in 1898, a gain of 20.9 days.

The production per day was 42,319 tons. There were 108,449.5 tons produced per fatality and 40,079 tons per accident; 244,866 kegs of powder were consumed, or about 1 keg for every 30 tons of coal.

There were 17,143 persons employed, which is 747 fewer than in 1898.

Four hundred and thirty tons were produced per person employed.

The examination of applicants for mine formen and assistant mine foremen's certificates was held on July 18 and 19.

The condition of the mines so far as ventilation and general conditions for safety are concerned, is good. There are, however, occasionally in mines where no explosive gas is generated, some remote sections where the air is not so pure as it should be, which is perhaps owing to a false sense of economy on the part of some superintendents and mine foremen who neglect the ventilation until finally it becomes too weak to be effective.

In mines where explosive gas is evolved, the quantity of air, as a rule, is ample to quickly sweep away all smoke and gas and keep the places in a healthful condition, as the latter is supreme master of the situation, and compels those in charge to keep an adequate supply of pure air in circulation constantly, and as a result those working in such mines seldom suffer from want of ventilation.

In mines, however, where there is no explosive gas, men turning chambers, and gangway men when driving from one cross-cut to another, especially when the roads are long, oftentimes suffer for the want of pure air, and the words "Man's inhumanity to man makes countless thousands mourn," are very forcibly brought to an observer's mind on visiting these places. And I would suggest that in the absence of the above-mentioned master, gas, that the sense of moral responsiblity be substituted, and then, perhaps, we may see—man's humanity to man make countless thousands rejoice.

The report contains a description of every one of the fatal accidents and a few notes showing how and where most of them occurred. A description of the most important improvements is also given, together with the usual statistical tables as prescribed by the Chief of the Bureau of Mines.

On the 20th of October, while in the vicinity of the Coal Brook breaker, Mr. Robert Carter, outside general foreman, ruptured a blood vessel of the brain, causing him to fall. He died two days later. As his death was not due to accident, it is not included in the list.

Respectfully yours,

EDWARD RODERICK,

Inspector.

Production of Coal in Tons During the Year 1899

Delaware and Hudson Company,	2,527,178
Hillside Coal and Iron Company,	934,060
Temple Iron Company,	873,358
Delaware, Lackawanna and Western Railroad Company,	622,706
Johnson Coal Co.,	413,221
Pennsylvania Coal Company,	393,611
New York and Scranton Coal Company,	340,015
Forest Mining Company,	323,495
Pancoast Coal Co.,	258,423
Mt. Jessup and Moosic Mountain Coal Companies,	215,946
Dolph Coal Company,	182,879
Elk Hill Coal and Iron Company,	89,613
Murray, Carney & Brown,	75,266
Riverside Coal Company,	44,606
Franklin Coal Company,	25,086
Kingsley Coal Co. (washery),	23,443
Ontario Coal Company (washery),	20,870
Clark Tunnel Co.,	10,795
Total,	7,374,571

The total production was made up as follows:

Shipped by railroad to market,	6,823,205
Sold at mines for local use,	84,244
Consumed to generate steam,	467,122
Total,	7,374,571

TABLE B—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons produced per life lost.
Delaware and Hudson Company,	20	126,359
Temple Iron Company,	11	79,396
Pennsylvania Coal Company,	6	65,602
Johnson Coal Co.,	4	103,305
Hillside Coal and Iron Company,	4	233,515
Miscellaneous coal companies,	23	97,093
Totals,	68	108,449.5

TABLE C—Number of Fatal and Non-Fatal Accidents and Tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Tons produced per accident.
Delaware and Hudson Company,	54	46,799
Temple Iron Company,	29	30,115
Pennsylvania Coal Company,	12	32,800
Johnson Coal Co.,	11	37,565
Hillside Coal and Iron Company,	11	84,914
Miscellaneous coal companies,	67	33,330
Totals,	184	40,079

TABLE D—Showing Occupations of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners,	37	57	94
Laborers,	16	23	39
Drivers,	6	15	21
Runners,	1	5	6
Door tenders,	1	4	5
Footmen,	1	1	2
Timbermen,	.....	2	2
Mine foremen,	.....	2	2
Slate pickers,	1	1	2
Outside laborers,	.....	2	2
Stable bosses,	1	.....	1
Pumpmen,	1	.....	1
Weighmasters,	1	.....	1
Culm men,	1	.....	1
Locomotive firemen,	1	.....	1
Locomotive engineers,	.....	1	1
Fire bosses,	.....	1	1
Assistant foremen,	.....	1	1
Headmen,	.....	1	1
Totals,	68	116	184

TABLE E—Classification of Accidents.

Causes of Accidents.	Killed or fatally injured.	Injured.	Total.
Falls of rock,	30	33	63
Falls of coal,	15	19	34
By cars (inside),	10	27	37
Explosions of gas,	1	9	10
Kicked by mules,	2	7	9
Explosions of blasts,	4	6	10
Explosions of powder,	.....	3	3
By flying coal from shots,	.....	2	2
Premature blasts,	.....	2	2
Struck by coal from trestle,	.....	1	1
Struck by ropes and chains,	.....	2	2
Explosion of caps,	.....	1	1
Fall of props,	.....	1	1
By cars (outside),	3	3	6
By falling down shafts,	3	.....	3
Totals,	68	116	184

TABLE F—Nationality of Persons Killed and Injured.

	Poles.	American.	Irish.	English.	Welsh.	Austrian.	Hungarian.	Russian.	Slavs.	Greek.	Italian.	Scotch.	German.	French.	Totals.
Killed,	16	10	10	9	6	5	5	2	1	1	3	....	....	....	68
Injured,	24	19	22	12	15	2	7	....	4	....	5	3	2	1	116
Total,	40	29	32	21	21	7	12	2	5	1	8	3	2	1	184

Examination.

The annual examination of applicants for mine foremen and assistant mine formemen certificates of qualification was held at Carbondale on July 18 and 19, by the Board of Examiners, consisting of Edward Roderick, Inspector; Chas. P. Ford, Superintendent; James E. Morrison and Joseph T. Roberts, miners, and Lewis H. John, clerk.

Fifteen applicants entered for mine foremen certificates and the following named persons were successful and were recommended: Thomas C. Boylan and Patrick F. Tigue, of Carbondale; J. W. Parfrey, Dunmore; John D. Jones and Edward Scharar, Scranton; Paul Bright, Throop; John J. Williams, Olyphant, and William T. Powell, Plymouth.

The following persons were recommended to receive assistant foremen certificates: John Robinson and Thomas C. Hodgoon, Scranton; Thomas Johns and Benjamin Milton, Vandling; James H. Swift and Martin Murphy, Archbald; David B. Thomas, Peckville, and David J. Morgan, Carbondale.

Improvements Made During the Year 1899.

Delaware and Hudson Company.

At the Leggett's Creek Colliery a new breaker of 2,000 tons a day capacity has been erected and the old one, which was built over the shaft, has been razed.

Two new air locomotives have been installed in the mine.

Also, at the Marvin, a twelve-ton air locomotive has been installed.

At Eddy Creek two new planes have been built in Grassy Island vein, and a slope has been sunk in Diamond vein.

In Olyphant No. 2 a chain hoist has been placed in rock vein to take empty cars from foot of shaft, doing work which formerly required three mules. Also, a new Jeanesville pump has been installed, making two pumps delivering water to surface through an 18-inch bore hole.

A new plane fourteen hundred feet long has been made in the Grassy Island vein, taking the place of two shorter ones.

Another large tubular boiler was placed in position, as was also a ten-foot fan for making draft for boilers.

At Grassy Island slope, new first motion engines for hoisting from Diamond vein to surface were installed, and new engines are replacing old ones at Grassy Island shaft.

A new breaker has been built at White Oak, on site of the old one that was burned in July, and a new tunnel has been driven to bottom vein.

Jermyn No. 1, a new rock plane 650 feet long has been driven from Archbald to Grassy Island vein. A new slope has been made, and a branch to hold from 70 to 100 cars is being made at foot of shaft.

The breaker has been rebuilt and now has a capacity of 1,500 tons per day.

Also, a new plane 1,500 feet long has been driven on a light grade from foot of shaft to old workings, where it is proposed to rob pillars.

A tail rope system of haulage has been adopted in No. 1 shaft, which hauls a trip of fourteen cars 3,850 feet, replacing five mules and drivers. Also, a new slope has been sunk a distance of 400 feet to "third vein," and two gravity planes, 750 and 650 feet, respectively, have been made.

A new drift has been opened at Powderly, in Grassy Island vein, and a surface railroad 3,000 feet long has been built to convey the coal from the drift to the chutes, and another pump has been added, making three pumps delivering water to surface through a 16-inch bore hole. A new lowering plane 1,800 feet long is about completed.

At Racket Brook a new washery with a capacity of 600 tons per day has been erected.

A new breaker of 2,500 to 2,800 tons daily capacity has been built at Coal Brook. It is modern in every particular and has replaced the old Coal Brook and Racket Brook breakers. The coal from No. 1 shaft and tunnel, Powderly slope and tunnel and Coal Brook mines will be prepared by it.

A new drift, known as the Mills drift, has been opened up, and is ventilated by a new Guibal fan, ten feet diameter, driven by a gasoline engine, with very good results.

At Wilson Creek a new rock plane from bottom to top coal has been made. It is 250 feet long. Also, two gravity planes, 750 and 1,025 feet long, respectively, have been made, and a small air motor three feet high has been added in top coal drift, making three in all doing all the work for forty-five places, besides rendering rock blasting unnecessary, except that the vein becomes less than three and a half feet.

At Clinton colliery a new tail rope system of haulage has been introduced 2,500 feet long, which hauls cars from eight different stations and replaces at least eight mules and drivers.

A new slope has been sunk in Clifford or lower vein, and an air shaft 200 feet deep has been sunk.

Delaware, Lackawanna and Western Railroad Company.

At Storrs No. 2 a rock tunnel through "fault," in Big Vein, has been driven. It is 6½x10 feet, and 435 feet long.

Elk Hill Coal and Iron Company.

At Richmond No. 3, main shaft has been sunk to Dunmore No. 3 vein, a distance of fifty feet. The air shaft has been enlarged and a fan erected at head of it, with very good results.

Pancoast Coal Company.

The main shaft is being sunk to lower veins and is now down about 121 feet. Commenced sinking about the middle of June.

Also, drove slope in Clark vein, about 1,600 feet through "fault" to coal, and two rock planes through "fault."

The Temple Iron Company's Improvements.

During the year 1899 the following improvements have been made at the collieries north of Scranton:

At Sterrick Creek colliery there has been erected a 20-foot fan, with 16x26 engine, and an air shaft 12x12 sunk in order to properly ventilate the Dunmore vein. There has been erected a double culm plane 300 feet long and 100 feet high, with a pair of 100 horse-power engines. There has been built a 22½x22x24 air compressor and 8,000 feet of 8x10-inch cast pipe laid from this air plant to the Dunmore vein workings, where there has been erected a pair of 100 horse-power engines to operates the slope in this vein, and with this air they are also doing the necessary pumping. A compressor house, 40x38, of brick has been built; also, a blacksmith and car shop, 30x60, with a 30x30 addition. A locomotive house, 20x40 has been built and there has been graded and built 5,880 feet of track and switches connecting the colliery with the Nay-Aug, D., L. & W. branch.

Two 225 horse-power Stirling boilers have been erected, with a boiler house 50x42. There have been placed in the breaker 24 jigs, 8 shakers and 8 screens, 2 sets of rolls, 2 sets elevators and 4 sets of conveyors, and an addition has been built to accommodate the machinery from the north and south sides of the breaker, 27x42. A pair

of new hoisting engines, 22x30, have been erected, and 1¾-inch ropes, with heavy shieves, placed in shaft. Two new carriages with pneumatic fans have also been placed in the shaft. A road has been graded and built from No. 1 shaft, in Grassy Island vein, a distance of 5,500 feet, to reach certain numbers of pillars from this vein.

At Edgerton, a road 5,250 feet long has been graded and built from what is known as the Edgerton drift to the coal upon the Pierce Coal Co. property. A tunnel is now being driven to reach coal in what is known as the Russell tract, and two planes are now being built to reach this coal.

At Lackawanna colliery eight jigs of the Reading pattern have been placed in the breaker.

Hillside Coal and Iron Company's Improvements.

A washery at Clifford breaker has been erected to wash fresh-mined culm, all sizes above birdseye having been taken out. It was started about May 1. The capacity is 300 tons a day.

Forced draft plant with Sturtevant blower, 7x4 feet, to increase the capacity of the Clifford boilers. The blower is capable of furnishing blast for 900 horse-power.

Savory's plane, on the Ontario tract, Clifford mine, 1,500 feet long, 7x14 feet in area, has been finished.

No. 6 plane, on the Ontario tract, Clifford mine, 600 feet long, 7x14 feet, in area.

One hundred horse-power electric hoist, west plane, No. 2 shaft, Forest City. This plane is 1,800 feet long. The hoist has a capacity of 500 loaded cars per day. There are four headings and two lifts. The hoist pulls the loaded cars out of the headings and draws up the empty cars.

A tunnel in No. 2 shaft, Forest City, from the upper split of the shaft vein to the lower split, 750 feet long, 7x10 feet in area. This tunnel is two-thirds completed.

A curved self-acting plane at Glenwood breaker. The plane is 990 feet long, 780 feet of which is in the Archbald seam, and 120 feet on the curve carrying the plane into the rock in an easterly direction toward the small seam above the Archbald, which was reached at a distance of 90 feet after the curve was made. The plane was projected in this way because of the pitch of the two seams. The curve has a radius of 50 feet, and the cars pass around it without difficulty, and I see no reason why it cannot be operated as easily as the ordinary straight line self-acting plane. It is 7x16 feet.

Remarks on Accidents.

A few brief notes on fatal accidents, made from actual observations by visiting, for the purpose of investigation, the scene of each one,

more particularly, however, applying to those caused by falls of rock and coal, inasmuch as 45 of the 68 were from these causes, while the remaining 23 were attributable to six different causes, namely, 10 by cars inside, 4 by explosions of blasts, 3 by falling down shafts, 3 by cars outside, 2 by having been kicked by mules, while 1 lost his life by an explosion of gas.

The similarity of many of the accidents caused by falls of coal and rock is so striking, that one cannot help thinking that the remedy which would prevent one would also serve as a preventative of the many, and if this were only discovered and diligently applied, accidents of this kind, undoubtedly, would, in a very short time, be much fewer.

Let us then consider the principal places of their occurrence, and the causes that led to the most of them, and in this way, perhaps, we may be able to discover, if not a complete cure, for this happy consummation can hardly be expected, yet at least a partial remedy which, if properly applied, will be a sure means of greatly lessening their number and thereby prove a blessing in the future to all who are interested in the mining of coal, and especially to the families and friends of all who are compelled to toil in the mines for their daily support.

Now, as to the places where they occurred: It can truthfully be said that of the thirty men who were killed last year by falls of rock, twenty-eight of them met their deaths within ten feet of the face, while the other two were twenty feet back. Then again, of the fifteen who were killed by falls of coal, ten were killed close to the working face; one cut out a prop which brought the top coal down upon him; one removed a prop so as to more conveniently load a car and was killed shortly after by a fall of coal; one was killed by a car bumping against a prop, knocking it out and letting a mass of coal down on him, while the remaining two of the number were killed at the same time by a fall of top coal that occurred a short time after they had fired a shot in a forbidden pillar, and misjudged the situation as to their safety.

Now, to recommend systematic propping as a means of preventing accidents by falls is a good thing, but this could not be practically done closer than six feet to the face, though sometimes it has to be done closer, but, as a rule, props are not put nearer than eight or ten feet from the face, except when there is a very bad roof; hence, this could not prevent a fall from taking place three feet from the face. Then again, it would not prevent a fall of "top coal" that happens while a miner is working out loose coal from the face; neither would it prevent "small falls" of rock that so often take place here, immediately after a shot has been fired, and which frequently occur with fatal results, owing to the miner's failure or neglect to locate the bad

pieces in proper time. And not a few lives are lost each year by the miners being in too great a hurry, and in not properly securing themselves before commencing to "work out a shot" which has but loosened its load.

This "hurry" among miners is most frequently in mines where the coal is "good" and miners go home early.

It is strange, but it is a fact nevertheless, that where the "vein" is "good" and "blows" well, it is seldom that a miner, excepting when he has "bad luck" is found in his working place after ten o'clock in the morning, for very likely his "home shot" has been fired long before this, and he is at home or perhaps somewhere else with his friends. In such mines they reach their places about seven, or a little later, and for two or three hours, and may be an hour more occasionally, they "pitch in" with all the vim and vigor they have, to "cut" enough coal for the day, and oftentimes in "good places" accomplish this with two or three shots. Then, instead of taking time to prop or otherwise secure a seemingly bad piece of roof, which may be discovered near the face, they go home, leaving this work for the "next day," when, as they say, "I'll stick up a prop under it." But when they arrive on the "next day" they find that their coal has all been loaded, and they must go at it, as it were, "hammer and tongs," again to "cut enough coal for that day," as they cannot afford "to lose a car," and, though blasting from the face, and from under the "slip" which they discovered on the preceding day, they pay no attention to it, for they have "no time to stop to put up a prop," nor look at or examine it, and frequently continue to work under it until their operations are suspended by its falling on them while "working out a shot" perhaps.

Then again, this "hurry to get out" is directly responsible for more accidents than are caused by falls of rock, inasmuch as it has a tendency to make men reckless in other ways, for if a shot should "go back on him," that is if it fails to "cut" or do the "work expected," it makes the already somewhat excited miner "wild," as it were, and he "wires" into it with a vim worthy of a "Trojan," seemingly oblivious to everything around him save "getting that shot out" and in this way very frequently works in danger under a bench of top coal from a foot to three feet thick and overhanging three or four feet and which, in all probability was prefectly safe before he fired the "last shot," but which now has been broken off close to the face by the force of the powder in the "shot that went back on him." But of this he knows nothing, neither does he think of it, for, as a rule, a miner whom a "shot has gone back" on is not in a mood to think of anything but of working out the coal which the shot failed to "bring" and continues, never for a moment realizing that he is "working out" the only support from under which is now five or six feet, if not more, of top coal, which, at last falls and perhaps causes his death.

Hitherto I have dealt with the "hurry" among miners where the veins are "good," which can very properly be styled an undue haste to get out early, and which is somewhat similar to the haste among persons on a ferry boat when it reaches the landing, all, for some reason, want to be off first, and it seems that every miner in mines where this habit is in vogue seems to want to be the first out.

But, on the other hand, there is also among the less fortunate miners who work in veins where the coal is poor and rough, a haste which is not caused by the desire to get out early, but which is almost as productive of accident as the one already described, inasmuch as it causes the miners to neglect themselves in almost the same way.

The one causes neglect in not taking proper precaution by the force of an unreasonable desire to get home, while the other causes neglect or oversight by what appears to be a want of time, owing to the hardness and impurity of the vein, which requires almost every minute of time to cut, clean and load their full complement of coal.

Many of the deaths, as will be seen by reading the descriptions elsewhere given in this report, occurred shortly after attempts to pry down "bad looking" pieces of rock had failed. The fact of the matter, however, in nine cases out of ten where this occurs, is that the miners were in too much of a hurry to persist in their efforts until successful, as it, in all probability, seemed to them a waste of time, either because they wanted to "go out" or else they were afraid to "lose a car." Again, it may be said that this "haste" which seems to possess at least eight out of every ten miners is a state of nervousness, and the miner who can "keep cool" when a shot "fails to cut," or, in other and more familiar words "goes back on him," especially when he is short of coal, is indeed a very rare exception and is seldom met with now-a-days.

This high nervous tension often causes them to think a shot has missed, if it is an instant longer in exploding than they expected it should be, and without any further thought, start back to the face, and quite often reach there in time to be shot.

Two other things some miners occasionally do when they are short of coal, and an empty car is waiting to be filled, and a shot they expected to "make enough coal" "fails to cut," is to start a short "plug" ahead of the "load" on the last hole, and, having started it, tell the laborer to finish it while they go, in haste, back to the box to "make up powder for it," and, reaching the "box," in their excitement forget to take their lamp off their hats, or, if they happen to think of it, leave it there and run the risk of being burned in preference to removing it and being safe.

The other risk, and the last I shall mention at this time, is that of lighting two squibs to fire two shots at one time. This, happily, is

not very frequently done, however, yet a very practical and otherwise careful miner tried it once this year and lost his life thereby.

I have endeavored to show where and how most of the accidents by falls take place, or, as it might be said, have located their true source and causes, and now must look around for a remedy that will, in a measure at least, prevent them.

It is a noteworthy fact and may with propriety be mentioned in this connection, that not one of those who lost their lives by falls in the mines of this district during last year, was killed on the main roads, and this fact alone proves that the thoroughfares of all the mines must be in a very safe and satisfactory condition.

Then again, aside from the thirteen deaths that were caused by cars, the fact that there were but ten due to all the other methods whereby a person may, by one false move, lose his life in and about the mines, goes to prove that the requirements of the law for the prevention of accidents are very generally complied with.

The main roads and traveling ways are examined every day by the mine foreman, his assistant, or some competent timberman or rockman delegated for that special purpose, and they are not only examined once but many times a day by the foreman and all other interested persons who have occasion to travel to and fro on them, and in this way any dangerous piece of rock, or bad and broken timber is promptly detected, and almost as promptly secured. The same thing may also be said of the chamber roads, for, as a rule, a close watch is kept on them by the miners as they go in and out. Then, again, all machinery connected with the mining, hauling and preparation of coal is carefully examined and guarded, and it is very evident from the few accidents that occur from this source, that the effect of these daily examinations are productive of very satisfactory results.

True, there are also daily examinations made of all working places; one, in gaseous mines, by the fire boss in the early morning before the men commence to work, but this, as a rule, is such a hurried examination, made with the flickering light of a safety lamp, and is principally for the purpose of ascertaining whether or not the places are clear of gas, though at the same time the fire bosses detect many a bad piece of roof on their routes, note it and, when the miner comes, tell him of it, and advise taking it down or propping it. Then, in addition to this, the mine foreman pays a visit to most places once on each alternate day, and if there is any special trouble, of course he goes more frequently.

But it can be clearly seen from the great number of accidents that are continually occurring at the faces, that these visits of examination are not frequent enough to be productive of very good results. And undoubtedly the visits of foremen, like all other regu

lar visits, become more or less of a routine and are looked for by the miners at stated times each day. It is either before or after these periodical visits of the foreman and his assistants that the accidents occur. The miners, when the foreman comes, usually stop working, if they have time to do so, and go back a short distance from the face, perhaps to the nearest cross-cut, sit down and have a chat or smoke; and, of course, if the foreman sees a bad piece of roof, or a piece which from appearance will become unsafe after more coal has been mined from under it, or if he thinks there is too much "top coal hanging" or undermined, he will tell the miner to "watch it," or if he thinks it sufficiently undermined he will tell him to "blow it down" or "take it down," to which order the miners usually make some remark concerning its safety, but finally say, "well, I'll take it down if you say so, but I don't think its bad and it will not 'come' anyway till I fire this hole, or perhaps it may be 'till this car is loaded,' but I'll watch it and take it down as soon as possible." Oftentimes, however, after the foreman has gone, they continue to work under the condemned roof or coal, and sometimes are caught. But this is not generally the case, as some men take warning when it is given them. Neither is it the intention to convey the idea here that those who do work under forbidden pieces of roof or coal do it with the intention of disregarding the foreman's orders, but simply because they are not convinced in their own minds that it is unsafe, or, thinking it is unsafe, trust their own judgment that it will not fall until they have performed what they think is more urgent duty.

But it is a fact that, as a rule, the miner who works under top coal, or bony roof, until prevented by the foreman or someone else in authority, is the class of men who most frequently get injured or killed, although of course there are exceptions to this rule as to all others, and the old miner of twenty years' experience is sometimes killed in the same manner as the miner of one day's experience, and the English speaking miner loses his life in almost the same way as his non-English speaking companion, and the most intelligent the same with the most ignorant meets his fate.

So it appears that one regular system of supervision that should require frequent visits to each working place each day by a competent miner, duly qualified to act as assistant foreman, whose duty it would be to direct where and when a prop should be placed, how far the "top coal" should be undermined, if undermined at all, and when it should be taken down, is the remedy which should be applied to prevent these accidents at the faces.

I would also recommend that this person visit each place under his charge as soon after a blast as his judgment suggests, and he should not permit any careless undermining or "working out of shots." The number of places that he could take in charge should be

governed by the condition of the roof and veins. Say the roof was hard sandstone and free from seams and slips, the vein small and "blowing" in one bench; in such a case a man could, with ease, look after the mining in twenty or more places.

On the other hand, if the roof was of slate or fire-clay, with numerous slips and slants, and the vein six feet high or more, blowing in two or more benches, then ten or fewer places, perhaps, would be sufficient for him to supervise. However, the number of working places that a deputy or assistant of this kind could properly attend to, could by circumstances in a very short time be determined.

In conclusion, I would say that if this suggestion were adopted, and the same careful supervision exercised at the face of the working places as is now exercised on the main gangways, traveling roads and over machinery, there is no doubt but that the good results so earnestly wished for, would in a very short time be obtained in the mines of this district.

Descriptions of Accidents.

A description of every fatal accident that occurred in and around the mines of the First Anthracite District during the year 1899, showing where and how each one happened and how, with more care many of them might have been avoided, together with some brief comments on the greater number of them.

By Falls of Rock.

At Gypsy Grove shaft, on January 6, Thomas Burke, an Irish miner, and a fellow miner, were taking a "skip off the rib," near what is known to miners as a "cut off" from gangway to airway, and some props that were supporting the roof nearby were partially discharged by shots fired by the men. Burke noticed one of these props and requested his fellow miner to hand him an axe to tighten the cap piece on it. The first blow brought down the fall that killed him. A careful examination of the roof before doing any work on the prop would have been a wise precaution in this case.

By a fall of rock at the Bell slope of the Dolph Coal Company, on January 10, Thomas Manley, an Irish miner, was instantly killed while helping his laborer to load a car. He knew the piece of rock was loose and had told his laborer that he would stand a prop under it as soon as possible after loading the car. They had a car about two-thirds loaded when a slab of slate fell on the car, and broke into two pieces, one of which struck him on the head and broke his neck.

The Lackawanna shaft was the scene of an accident on January 28 that caused the death of a Polish laborer named Peter Stolarchick.

He was working in a breast that was being driven to prove the coal near a "fault." The roof was bad, but was well timbered to within three feet of the face of bottom rock. Inside of the cross timbers the roof curved upwards, and thinned out just on the timber, and gradually became thicker to within a foot of the face, which was five feet distant, from which point a slab of rock fell on his back, breaking it.

About an hour and a half before it fell it had been examined and though safe, but it was a very treacherous slab and fell without the least warning.

William Stevenson, an English miner, was fatally injured on February 24, at Eddy Creek shaft. He was barring down a bad piece of roof near the face of his chamber, to which his attention had been called by the fire boss, when another slab that was overlapping the one he was working at, fell and caught him. This was unavoidable.

At Mt. Jessup slope, on February 25, a Polish miner, named John Lashkowitch, was fatally injured. He fired a shot at the face of his chamber, then waited about five minutes. He then went back and saw a slab of rock which he though was ready to fall, and tried to pull it down, but could not. Failing in this, he began to clear a place to put a prop under it, and while stooping to lift the prop to its place, a slab fell and fatally injured him. He died on the 5th of March following. This, surely, was caused by an error of judgment as to the true condition of the thin slab he was about to secure by propping.

On March 13, Charles Smith, a Polish miner, was instantly killed at Simpson slope. He was turning a chamber off a gangway, and when about eight feet in from the main road, a branch was put in for him. When a car was brought in, he discovered that the right hand rib was too close to allow it to pass. He then drilled and fired a short hole on the rib, and when on his way back, a large slab of rock that had been supported by the coal in which the shot had just been fired, fell and crushed him to death. The slab was a treacherous sand rock "saddle," and extended from the lower to the upper rib of the gangway. The seam on the lower side extended to within a foot of the rib, thus forming a small ridge of rock supported by the coal on the upper rib. When this had been removed, it gave it two loose ends and required but little time to fall of its own gravity. There were no seams of any kind to be seen, and, being firmly set in the roof, would give no hollow sound when struck by a drill or hammer.

Mike Drilnock, a Polish miner, was fatally injured at the Ontario tunnel on March 24, and died four days later. This man went from his working place to one worked by his boarding boss to help him. When he arrived he said to the miner who was drilling a hole "let me drill hole; you go load car," and with the remark took hold of the

machine and began to drill. He turned for a few minutes, when a slab fell on him with fatal results. The roof above the slab was solid sand rock, and no danger was suspected from this source, for the slab usually is strong, and powder must be used to blow it down. The miner stated that he examined the roof a short time previously and was confident that it was perfectly safe.

Mike Novak, an Hungarian miner, was killed at the Lackawanna shaft on March 30. He had just started a cross-cut on the left side, near the face of his chamber. The roof is very hard sand rock, but is filled with seams or "mud cracks," owing to the shallow covering. In addition to these, there were to be seen four "slips" or "slants," as smooth as glass, sloping toward the center. Before the coal from the rib had been removed the lump was supported by it, but after the partial removal of the coal the lump began to "give," and when enough had been blasted it suddenly fell in one unbroken mass. The sides of the hole from which it fell were covered with a soft clay, showing that it was entirely detached from the main roof, thus making one of the most dangerous formations that the miners have to continually guard against. This, in the writer's opinion, was an unavoidable accident, as the roof was solid but somewhat broken, and to guard against the broken pieces, prop had been placed in close proximity to each other, but, in spite of all, the accident took place.

Thomas Allen, an American miner, was instantly killed at Wilson Creek tunnel on April 21. He had fired a shot at the face of his chamber a few minutes perviously, and had returned to see the result. On reaching the face he took up a drill and began "barring" out some loose coal. His partner, who was standing nearby, told him to "listen," as he though the roof was "working." He listened a moment and then said "yes, it is coming," and made an effort to get out of the way, but was caught and killed. The laborer remained close against the face and escaped. There were several props under it at the outside edge, but they were of no avail after the coal from under the inside end had been removed, as a "slip" was exposed, completely cutting it off from the roof proper. In all probability if the miner had exercised ordinary care, this accident could have been avoided. On returning to the face, after firing the shot, the first thing he should have done would have been to carefully examine the roof, not mechanically or automatically, as is too often the case, before going under it to work.

Martin Bolavage, a Polish laborer, was instantly killed at the Simpson slope, on April 27. He went from his working place to his brother's to help him "take down some top coal," and while doing so, a large "saddle" of rock fell from an otherwise solid roof and struck him, with fatal results.

On May 2, Thomas Morgan, an English miner, was instantly killed

at Storrs No. 1. He and his brother and two laborers were driving a gangway to be used as a water course. The foreman's orders were to keep what is known as the "middle rock" down as close as possible to the face, which had been done, up to this time, but for some reason or other it had been left up for a distance of fourteen feet. After firing a shot, Morgan went back with hammer and wedge in hand and immediately began to take down a small bench of coal from under the rock, but after striking a few blows a large slab of rock fell on him. There was a seam running through it at the inner end, also on each side, while the outer end was broken off. It seems that this accident was the result of over confidence in the safety of the roof, or else it was a case of extreme indifference to danger on the part of the victim and his brother, as there was no necessity whatever for them to have worked under the rock so far, without first having placed several props under it.

George John, a Welsh miner, was killed at the Ontario tunnel on May 4. He was engaged in "robbing pillars" on an airway road, and shortly after returning to the place where he was working, after firing a shot, a slab of "bony" fell, which caused his death. Opposite where the shot was fired, the road was 9½ feet wide, on the lower side of which, in the short distance of 7 feet there were three props, and the same number on the upper side, one of which was within 3½ feet of the rib on which he fired the shot, but it was dislodged by the shot from under a bad piece of roof composed of a mixture of coal and rock. There is no doubt but that this piece was gradually giving way when the miner was on his way back, but it seems that he did not examine the roof on his return, for, had he done so, he surely would have detected the bad piece that a few moments later ended his life.

John Pritchard, a Welsh miner, was fatally injured at Johnson's No. 2, on June 8. He was working a breast in the "top split" of the "Big Vein," which is three feet high. His laborer was loading a car, and when nearly finished discovered he had not enough coal to fill it. The miner, to obtain enough to load it, drilled and fired a hole, and then went back to see what it had done, and while on his knees at the face, looking at the result of the shot, a long, thin, slippy slab of rock fell and forced him down against some loose coal and so severely injured him that he died in a few hours. He had a hole drilled in the top rock, preparatory to blowing it down, and would have done so had he had enough coal loose to load the car, but he had not; hence, was obliged to fire another shot, which took the only support from under the inside end of a treacherous slab, and it fell without the least warning, with above result.

At Grassy Island shaft, on July 6, Joseph Vaughan, a Welsh miner, was fatally injured and his laborer, named Max Quapish, instantly

killed. William Vaughan, a son of Joseph, who was working as a partner with his father, said that in a short time after reaching the place in the morning, he went to the face and, as was his custom, took a drill in his hands and "sounded" the roof and found a familiar "drummy" sound, but thought it was no different from former sounds, and so told his father. In a short time afterwards, however, while the four men were at work, a large flake of the recently examined roof fell with the results as already set forth. The timbering was up to within nine feet of the face, and two props, one on either side of the track, placed inside of the timber, as the roof was known to be bad and all precautions thought necessary had been taken to guard against it, yet its true condition was misjudged.

Martin Comiski, Polish laborer, was instantly killed at Leggett's Creek on July 13. This accident occurred in a chamber in the "four foot" vein. To obtain a height of five or six feet over the road the roof is blasted and the rock "gobbed" on the sides as high as the roof, except opposite cross cuts. While working out the coal, numerous props are placed to support the roof and this was the case here, and many of them were not more than two feet apart, while others were six feet. Where the fall happened there was six feet purposely left so as to have room to work while "gobbing" the rock. Shortly after firing a blast in the roof, and before commencing to "gob" the rock, the miner examined the roof over where he and his laborer were about to work and was satisfied that it was safe, and for a while both men threw rock back from the face to the open space on the side, and then the laborer started to pile it up in the shape of a wall and had it built to the height of a foot when a small triangular piece of rock fell and crushed him to death. It seemed to me that the miner should have detected this small slab when he made his examination. However, it is possible for it to have sounded "solid," inasmuch as it was in the shape of a wedge in the roof, and thus escape his notice.

The Pancoast shaft was the scene of an accident on July 29 whereby Charles Motts, an Italian miner, was instantly killed. He was about to blast down some top coal, but thought he would first remove a few props from under it, so as to have a good "fall." He succeeded in knocking out several props from the inner edge with no bad results, but while trying to remove one from the outer edge, the coal and rock to a thickness of fifteen inches fell on him and crushed him to pieces. This man had the reputation of being a very careful workman, and the way he had his place propped would indicate that he was a man who worked with an eye to his own safety. Yet, by a mistake in judgment as to the condition of the top coal and roof above it, he was led to take one of the most dangerous risks connected with mining, that of removing props with a hammer, and lost his life thereby. It is but just, however, to believe that the

man, while removing the props to give a hole that he was about to fire a "good chance," had no idea that the rock above it was bad, for, as a rule, it is hard and solid and on most occasions has to be blasted down. No "slips" were visible while the top coal was under it, but afterwards it was seen that on all sides of it there were slips completely cutting it off from main roof, which shows the danger of removing props in this way.

William Strahalits, a Slavish miner, was fatally injured at the Riverside, on July 29. He was loading a car at the face of a breast when a smooth, shelly piece of rock, similar to a "bell" fell, striking him on the back, doubling him up and so seriously injuring him that he died on the following day. The mine foreman was in this man's place a short time before the fall and helped him to "stand" a prop within two feet of the face and eighteen inches of the road, at the end of which the fall occurred. The roof was examined, and, after standing the prop, was thought to be perfectly safe. Both, however, were deceived by a treacherous piece of rock, which fitted so closely into the roof that no seam could be detected.

At the Erie shaft on August 24, Al. Tompkins, an American miner, was instantly killed. He and his partner, on a day that the mine was idle, went in to blow up some bottom rock, and cut some coal for the following day. He got into the place before his partner, and started a hole in the bottom, but had quit drilling, and when his partner arrived was trying to bar down a three-inch slab of slate. While doing so, he was standing inside of a prop that was eleven feet from the face and under the upper end of three layers of slate, each three inches thick. When the lower layer was broken, the other two gave way also, dislodging several props and falling in a mass on the unfortunate man. The surface of each layer of slate was very smooth, and there was no adhesion whatever to the main roof, and it is doubtful if their true condition could have been known by sounding. To prevent such accidents as this, the slab of slate ought to be blown down as soon as one "cut" of three or four feet has been taken from the face, and under no circumstances should it be propped as was done in this case, and this was recommended to be done in the future.

Joseph Stanishlaw, an Hungarian miner, was killed at Mt. Jessup on September 13. After firing a shot he and the laborer sat down for a few minutes, then started back to the face, and when near it, the laborer, who was in the lead, saw that a set of timber nearest the face had been dislodged by the recently fired shot, and that the roof was "working" and so informed the miner. He then, in spite of the laborer ,who tried to hold him back, went by to the end of the track to see for himself, and that moment a large mass of rock fell and so seriously injured him that he died in six hours. There is no doubt

that this could have been avoided had the unfortunate man been more cautious when approaching the place to examine it; yet I must believe that he though he was using all the necessary precaution, for no one would for a moment think that he rushed headlong into such a dangerous place. He was robbing pillars, and had been engaged at this work for eight years, and was known to be both competent and careful.

Michael Lavelle, an Irish laborer, was killed at the Marvine shaft on September 19. A cross-cut was being driven from the breast in which he worked to the one on the outside. When it was nearly finished, instead of pitching the coal back seven yards and loading it in their own place, he and the miner went into the next place, as it was much easier to load the coal from there. The miner, before commencing to work, examined the roof and found it "drummy," but safely "propped." He helped the laborer load two cars and then went home. A little later an empty car was brought in, and Lavelle, thinking it would be much more convenient to load it if one of the props was out of his way, first sounded the roof over it, then removed the prop and proceeded to load the car, and worked about fifteen minutes, when a fall of rock occurred which completely covered him. Above the mass of bony that fell, near the centre, there was, as was subsequently learned, a "sulphur ball" two feet in diameter, which bore on the bony and caused it to fall, sooner perhaps than it would if it had not been there. It was a serious mistake on Lavelle's part to remove this prop and it is surprising to think that he did so in view of the fact that it was under the edge of what is generally known as "bad or falling roof." This was a mistake on the laborer's part in the absence of the miner.

On September 31 John Zernoski, a Polish miner, was killed at the Lackawanna mine. After firing a shot he went back and began barring the top bench of coal, which is twenty-two inches thick, over which is a bench of "bony" six inches thick, and above this the sand rock roof, which, as a rule, is safe, being solid and free from seams. Directly under the twenty-two inch bench of coal is a bench of rock about two feet thick; here the mining is done in the top bench of coal and the bottom blown up afterwards. It was while mining out the coal from the bench after firing a shot on the right rib to "square" up the "face" that a most treacherous "saddle" which appeared in the sand rock above the bony, hence was hidden from sight, fell and caused his death. This accident was unavoidable.

John Maynes, an English miner, was instantly crushed to death at the Erie shaft on September 28. The miner working the next place to Maynes' stated that he (Maynes) fired a shot and immediately went back to the face to see what the results were, and was about to pick up a drill when a large "saddle" rock fell on him. At the face where

it broke off it was fourteen inches thick, tapering back seven feet to a sharp edge, outside of which there was a prop which was of no avail. This miner stated that he and Maynes had been together in the latter's place under this rock, and seeing a seam in the roof showed it to Maynes, and he thereupon took up a drill, sounded the roof and thought it perfectly safe. There is no doubt but that a fourteen-inch piece of rock would give a solid sound if struck where it was thickest, but if properly examined, in all likelihood its true condition could have been detected, or at least several props should have been placed under the outer edge when the seam was first discovered, and the accident in this manner might have been averted.

Roy Snyder, an American laborer, was fatally injured on October 18, at Jermyn No. 1. On the day preceding the accident deceased told one of the afternoon shift miners that the "middle rock" was loose and that he should watch it, and on reaching the place he tried to pull the rock down but failed, and he worked under it, during the whole shift. On the following day the two miners barred down considerable of the rock on left side, but getting short of coal, ceased their efforts and fired a shot in the face, and while the laborer was loading a car, a piece of fire-clay rock fell and struck him on the head with fatal results. This bench of rock or fire-clay is between two benches of coal and runs from eight inches to a foot thick, is very brittle and short grained and gives no warning whatever before falling, after it has "drawn" or opened a little from the coal. The miners are well acquainted with its nature, but they sometimes work under it as far as eight feet, trusting it because it appears to be "solid." The mistake made in this case was in allowing it to be up and working under it after once having tried to bar it down. It frequently breaks off and falls when undermined but two feet, and not infrequently "comes' 'with shots fired in bottom bench if put up near it. The safest plan is to keep it down close with the face and the adoption of this rule has repeatedly been recommended.

October 8 Patrick Walsh, an Irish miner, was fatally injured at Coal Brook tunnel. While shoveling coal from lower side of chamber toward the track, a large slab of rock fell on him and so seriously injured him that he died in a short time. He and his brother, both miners, worked together and on Friday preceding the fall, they asked the foreman whether they should prop a slab of rock or take it down, and he recommended that it be taken down as it would be safer. When he had gone, they made an attempt to pull it down, but failed. Then, thinking it was not as loose as they at first thought, ceased their efforts, and worked under it most of the day. On Saturday deceased again tried to pull it down, but failed. It was then decided between them that it would not fall until they had gotten beyond it, and if it then fell they would not have to handle it,

It remained in place all Saturday and over Sunday, only to fall and kill one of the brothers in half an hour after he entered the place on Monday morning. Here again is seen the serious consequences of not persisting in the effort to take down a bad piece of rock once it has attracted attention. The miner alone is responsible for his safety at the immediate face of his own working place, for not one foreman, nor twenty of them, could guard against the dangers from falls of coal and rock after the first shot is fired in the morning.

On November 1 William Bailiff, an English miner, was fatally injured at the Clinton slope. This was one of the most unexpected, yet none the less sad, of accidents and occurred while the man was taking down a slab of top rock, which was not more than three inches thick. The chamber was well propped to within eight feet of the face and within three to four feet of the rib, with regular rows of props along the road three feet from rail. Everything went to show that deceased was a neat and careful miner, but he was deceived by a thin slab of rock, which fell and struck him on the back while he was working at a piece in front of him. The slab struck him edgewise between the shoulders and severed the spinal cord, causing his death in three hours. He had sounded the slab before commencing work on the other one and thought it a harmless scale and so paid no further attention to it. This was an unavoidable accident to a very practical miner while he was making his place secure.

On November 11, at Eddy Creek shaft, Stanley Govalski, a Polish laborer, was instantly killed. He, another laborer and two miners were working in a counter gangway about fifteen feet wide, the main roof of which was hard sandstone, but between this and the coal there is a four-inch slab of fire-clay which usually falls as the coal is mined, but for a few days had been "sticking" to the roof, and for this reason had been undermined for seven yards. The miners noticed that it was "giving" a little from the roof at one point and tried with two drills to pry it down. But not being as loose as they thought, they ceased their efforts before accomplishing the desired result. They had three holes drilled in the coal, one in the top bench and two in the bottom. They fired the former, then, after waiting a while for the smoke to clear, went back and examined the roof and considered it safe, "never thought for a moment it would fall," said the miner. About 9 o'clock an examination was made, at which time it sounded "solid" at face, but a little "drummy" at outer edge. The last hole fired, blew out the support from under the inner edge and evidently made this a little "drummy" also, for in less than five minutes after the last examination it fell, killed one and injured two. Another case of needlessly working under a slab that had once been suspected of being unsafe.

Andrew Roebulla, an Austrian laborer, was instantly killed at No.

1 shaft, Pennsylvania Coal Company, on November 16. While shoveling coal from side of a pillar to side of road a large "saddle" of rock gave way, which forced out two props and fell, catching him under its edge. Two props had been placed under the outer edge of this slab as soon as possible after the seam had been noticed, the other end of it was over the gob which was piled to the roof. When the heavy end gave way it pushed to one side and thus dislodged the props. The roof was sand rock and was solid, and very seldom a "saddle" was found in it, but they do occasionally occur and are squeezed out, so to speak, by the least motion in the roof where the pillars are being removed, hence are hard to guard against.

At the Dolph, November 24, Frank Neitch, a Polish laborer, was fatally injured and died on the way to hospital. On reaching the face in about half an hour after firing a shot, the miner took up a drill, sounded the roof and was satisfied that it was perfectly safe to work under and began shoveling coal to the laborer, who, in turn, threw it back into a car. After working for about ten minutes a fall occurred which killed the laborer and very slightly injured the miner, as he happened to be "just out of reach." Apparently the place was as safe as it could be, excepting a seam in the roof near the pillar which ran back for twenty-five feet and gave every indication of "running far over the pillar." At the outer end of it two props had been placed about six feet apart, which were supposed to be under it. After part of the pillar had been removed, its main support was gone and it gradually began to give way and fell very unexpectedly. It was subsequently seen that the props had been placed on either side of the seam and were no support whatever. It resembled an upturned boat and was set up in the roof with an eighth of an inch mud seam all around it, making it a very treacherous piece and one hard to guard against.

On December 11 John Sise, an Hungarian miner, was killed at the Blue Ridge mine. He was working in a cross-cut at the face of his chamber and was shoveling coal back to load a car when a small slab of rock fell and caused his death. When the runner went up for his car, he found it about half loaded and shouted to the miner but received no answer. Then, going into the cross-cut he saw him lying there dead, partly covered by a slab of rock and bone. Between the roof proper and the top of the vein which runs from four feet ten inches to six feet high, there is a slab of bony rock in which oftentimes very smooth slips occur, that taper from a thin edge to six inches thick at center, then slope down to a point, thus forming a small ridge of rock. This was the case here, and the miner must have know that this slab was not the safest as he had taken it down to within four feet of where he was killed, and very little additional work on his part would have removed what was left and he would

then have been working under solid roof. But some persons seem to be entirely devoid of a sense of the necessity and importance of guarding against "small falls" of rock and coal, and having several times escaped without injury, they gradually grow indifferent, and finally regard them with silent contempt, but, sooner or later, an insignificant lump of rock or coal falls and their life is at an end.

By Falls of Coal.

On February 22, at a drift known as the "Eye Brow," operated by the Edgerton Coal Company, Andrew Costic, an Austrian miner, was instantly killed by a fall of top coal. He had finished putting in a road alongside of a pillar which he was about to commence to "rob." He had placed several props under the top coal before he began to lay the road, and he had it well "propped" to within a few feet of where he was to begin working. Near the end of the track and within a foot of the outer rail there was a prop which had to be removed, both for the coal that was over it and to allow the cars to pass. Instead of removing this prop by blasting, as was his custom, and as the law requires, he examined the coal and then began to chop the prop. When about half through his laborer called his attention to the fact that the coal over the prop was "working." He then stopped for a moment, looked at the roof and listened, and, without saying a word, resumed his chopping, then suddenly the prop gave way, the coal fell and completely covered him.

Part of Rule 55, of the Mine Law, is as follows: "When it becomes necessary to remove any of the said props or timbers for the purpose of mining coal that may be supported by the same, to dislodge any of the said props or timbers, it must be done by blasting."

Joe Fulton, a Polish laborer, was instantly killed March 2 at the Simpson slope, by a fall of "fourteen-inch" coal. He was pushing a loaded car out from the face of a chamber, when the latch on the door of the car struck and dislodged a prop from under a piece of top coal, letting it down on him. The road had been displaced by flying coal from a shot fired a short time before, moving it up so close to a prop that it was with difficulty that an empty car could pass it. When the loaded car was pushed out, it leaned to one side and struck the prop, with results as already stated. It is plainly evident that if the road had been moved back to its proper place this fatality would not have occurred.

At the Ridge mine, on March 14, an Italian miner named Dominick Myer was instantly killed. After firing a shot at the face he went back and began to "work" out some loose coal from the mining bench, and while thus engaged an overhanging mass of top coal fell on him. The piece ran to a point at one end, and the shot recently blasted un-

covered a "slip" at the other, and after it had fallen it was seen that it was completely cut off at the back by a "slip" running its entire length, thus leaving it a loose piece depending on the coal which he was eagerly working out from under it. The roof and vein in this place were of the best, but the mistake he made was in working under the top coal for a distance of six feet where it was full of "slips," and should not have been undermined more than one "cut" of three or four feet before blasting it down.

Joseph Ulshifski, a Polish miner, was killed at the Ridge shaft on May 9. He was working in a chamber where the vein blows in three benches. Immediately under the top coal there is a small bench commonly known as the "Six Inch," which at times is very "tough," then again "brittle." When the former is the case, it is hard to bar it down, and where there is a smooth between it and the top coal, it "draws" or "opens" away from the top coal, but seldom falls unless a "slip" occurs at the face, or it is broken off at the face by a shot fired in the middle bench near it. When it is tough or "sticking," some miners are prone to think that it will not fall under any circumstances, and they work under it for a distance ranging from six to fourteen feet, as was the case here. This man had begun to fear the "six inch" coal, notwithstanding that he had several props under it, and on the day of accident had talked with the foreman about it, who told him to take it down at once. But instead of doing so he continued to work on the bottom coal up to the time of the accident. The roof in this place was excellent, the top coal solid, and the only danger was in working so far under the "six inch" without taking proper precaution to secure it with props. Sometimes there are no "slips" in this coal, but they appear when least expected; hence, the necessity of guarding against them at all time and taking no risks whatever.

At Grassy Island shaft, on June 12, a Welsh miner named Benjamin Lloyd, was almost instantly killed. This was his first day as a miner, having been for four years a laborer. He had fired a shot in the middle bench of the vein about five minutes before the "fall," which did not properly do its work. On getting to the face he took up a drill and began to "work" out the loosened coal, and while thus engaged a large piece of overhanging top coal fell and bore him down on some loose coal on the bottom. At one end of the peice that fell was a "slip" that extended from the bottom to the top of the vein, thus giving it a loose end, and the men must have known it was there, as all the "benches" up to the top coal had been mined. The hole just fired was a "strong" one, and the powder spent most of its force against the top coal, and must have fractured it and when the young man worked out the coal in which the shot had been fired, he removed the only support the piece had.

This seemed to have been an unavoidable accident, though perhaps a little more care might have been exercised in ascertaining the condition of the top coal after firing a shot in the "bench" directly under it.

David R. Davis, a Welsh miner, was instantly killed at the Leggett's Creek on the 19th of June. A visit to the scene of this accident disclosed a vein about six feet high, of the best kind of coal, but full of "slips." Davis had fired a shot on the right side of the breast, which had done considerable work. Later he drilled a hole in the bottom bench, then took up a pick and "sounded" a piece of top coal extending about three feet from the right "rib" and over the coal in which he had but recently fired a shot. After sounding it he began to mine out the loose coal from under it so as to give the bottom hole a better "chance" to "cut" and while doing so the recently examined top coal fell on him. He was an old and experienced miner, having worked in this mine for twenty years; yet after all met his death in the above manner.

Pasco Koda, an Italian miner, was killed at the Edgerton drift on June 6. He was engaged in "robbing" pillars and a moment before his death was drilling a hole at the bottom of a pillar about four feet from the face. He stopped for a brief rest and walked out to the edge of the top coal where the two laborers were loading a car. Just as he reached the place, a piece of "top coal" fell on him. The place was well propped as a precaution against falls of roof that are liable to occur while removing the pillars, but they had no fear whatever of the top coal. The roof is sand rock and always gives sufficient warning before falling, and seldom is anyone injured here by it.

The vein is nine feet, seven of which is in one bench under the top coal, which is first mined out, and the top coal taken down later. He had a hole in the top coal ready to fire as soon as the bottom hole which he was drilling had been fired, to first blow out the coal from under it. He was a miner of long experience and known to be careful, yet got in the way of a small piece of coal just as it was falling.

James Owens, a Welsh miner, was fatally injured at Jermyn No. 1 on July 7. Three props were dislodged by flying coal from a shot fired at the face a short time previously. His son said that his father was clearing a place for the foot of a prop when the fall occurred. The top coal is a foot thick and is over the bony, which is six inches thick and very "tough," and for this reason a great deal of confidence is placed in it by the miners, who, however, are often deceived by it, as in this case, where two "slips," one on the inside, the other at the outside, occurred, completely cutting it off from the main body of coal. When the three props were discharged it caused the bony to "spring" and the top coal bearing down on it caused it to give way on a line with the props on the outer edge. Before proceeding to replace the props, a thorough examination of the roof should have been made,

which undoubtedly would have revealed the true condition of affairs, and in all probability this fatality would have been averted.

Mike Colander and John Popish, both Russian miners, were instantly crushed to death on the 6th of October at the Hendricks, or as better known the "Eye Brow," drift. They were engaged "robbing pillars" and "taking back top coal." The foreman, early in the morning of this day, told them to quit work on the pillar and commence taking down the top coal. After loading two cars of loose coal from the pillar they fired a shot in the "top coal" as directed, and loaded two cars out of it. While the laborers were loading the last two cars, Colander drilled another hole in the forbidden pillar. When the cars had been loaded the miners charged the hole and fired it. This weakened the pillar to the extent that it was too weak to resist the weight upon it, and instantly the top coal, and roof over it, as was subsequently learned, began "working." While it was in this state the laborer went up to a place a short distance from where the shot had been fired to get his dinner pail and on his way back told the miners, who were standing six feet from the edge of the pillar, and under the "top" coal, to get back as all the props were "breaking." They made some remark in reply but never moved. Another miner who was working close by also told them to get back and not go up for their tools as the place was working too badly. Almost at the same moment the fall occurred, which instantly crushed them both. It might be inferred that from the place where they stood, in all probability they did not for a moment think that the fall would extend back so far, as the pillars below them were strong, but they were sadly mistaken, as it broke off clean with the edge of the pillar, six feet from the edge of which they were standing. They were practical miners and had been doing the "robbing" in this mine for several years, and hitherto, so far as known, had obeyed orders given to them by the mine foreman and his assistant. In this case, however, they disobeyed and fired in the pillar after orders had been given not to do so. Having done so, surely they, instead of standing under the "working" top coal, should have retired to a safe place on the gangway and there have awaited the "big fall" which in all probability they expected to bring down by blasting the pillar from under it. There has nothing but "robbing" been done in this mine for the last eight or nine years, during which time the work has been done with the greatest care, and while a few persons have lost their lives it has not been by falls of rock as one would most naturally expect, but all by falls of coal, as in this case.

Michael Hoban, an Irish driver, was fatally injured at the Dolph mine on the 6th of October. This boy, after taking a car to within a few feet of the face of a chamber, took up a pick while the miner

was unloading a prop that was brought in the car, and began picking on the "rib" near a "fault," and while so doing a triangular piece of coal dropped, and so seriously injured him that he died nine hours after. The coal was very soft and shelly, which led the boy to pick at it in play, and thus he lost his life.

On October 7, at No. 1 shaft of the Pennsylvania Coal Company, Stephen Andrake, an Austrian miner, was fatally injured. He and a fellow miner had commenced to drive a cross-cut, and after firing a shot began shoveling coal from rib to side of road, and when the most of it had been thrown back, Andrako told his partner to commence drilling a hole, that he would shovel the rest, and continued for a short time, when a piece of top coal fell and struck him on the back. The loose coal on the rib had been trimmed down before starting to work on the cross cut, but had not been trimmed after firing the shot which undermined a piece of "top bench" which could have been taken down with little effort. It seems that this was another case of "didn't think it was bad, but expected it would come with the next shot."

At Storrs No. 1, on November 2, a Hungarian laborer named Frank Drawbish, was instantly killed. When he and his miner arrived in their place in the morning they discovered that a mass of top coal about half way up the "breast" was "working" and decided to take it down. With this object in view, a hole was drilled in it and blasted. Before firing the shot the laborer was sent down to the gangway to warn the driver or any one else who might be passing. Before the arrival of the driver the blast had been fired and the miner went back to see what it had done. At this time the driver came in with a car which was blocked inside of the frog on chamber road. The laborer, after blocking the car, started toward the face to reach a cross-cut on the opposite side to where the miner was working at the top coal with a drill. When he, the miner, saw him coming he shouted "look out Frank; look out Frank; top coming," to which he replied "all right, all right," and with this started to run faster, but was caught and killed within a short distance of the cross-cut for which he was making. He evidently thought he could reach the cross-cut before the fall should occur, otherwise he would not have attempted it. It was a case of mistaken judgment.

At the Sturges shaft, on November 8, James Kerrigan, an Irish miner, was fatally injured and died on the way home. On a visit to the scene of this accident, I was convinced that the deceased had been a very practical and neat workman, as he had his place well propped to within a few feet of the face. The roof was very poor and many props had been placed under it to guard against falls of rock, yet he was caught and killed by a piece of top coal. He had just fired a hole under an overhanging mass of top coal which he ex-

pected would "come" with the shot, but on returning he found the shot had not "worked" as well as expected, and he took up a drill and began barring out the bottom coal at the narrow end of the top coal, at the same time trying to keep an eye on it to get out of the way in case it should fall. He struck the bottom coal several times, and each time loosened the top coal, and while throwing himself forward to strike another blow it fell and caught him. The vein is from five and and half to six feet high and blows in two benches, top and bottom, the former about two feet and the latter four feet. The mining is done in the bottom and with ordinary care, few, if any, accidents need occur from this source.

Anton Supanzis, an Austrian miner, November 9, was killed at No. 2 shaft of the Hillside Coal and Iron Company. He was starting a cross-cut at the face of his chamber, which was pitching from eighteen to twenty degrees. After firing a shot he went back to face, picking up a drill as he passed it and went to where the shot had been fired and commenced to bar, when suddenly the "whole face," as it were, gave way, pinning him to the floor and killing him instantly. He made a serious mistake in standing in front of coal that he was barring on a pitch of twenty degrees. He was an experienced miner and should have known enough to have stood on one side in such a case.

By Cars (Inside).

On June 27, John Williams, an English pump runner, was fatally injured at Mt. Jessup slope. On quitting work he got on the head end of a trip of cars at bottom of slope and rode to head of slope, when he attempted to jumy off and was caught between the car and roof and squeezed almost to death. No one is permitted to ride on the cars except the slope tender, but he, being on friendly terms with this young lad, permitted him to ride up.

At Jermyn No. 1, on July 20, Walter Greenslade, an American "footman," was instantly killed. He and several others were placing a loaded car on the track near the foot of the shaft while a trip of mine cars and a truck, just hoisted from the slope, were being lowered from head of slope to shaft "turn out" or branch. When six cars had passed over the slope latches, the "draw head" to which the rope was attached broke, and the whole trip ran with great force against the cars already on the branch and bumped two of them off the track, one of which struck Greenslade and crushed him against the side, causing instant death.

Two American laborers named respectively Richard Clifford and Michael Lavan, were instantly killed at Gypsey Grove on July 27. After loading a car they went up the slope a short distance and sat down to eat a lunch while a trip of four cars was being hoisted.

When it reached a distance of about 400 feet from where they were sitting, the main link of the chain broke and the cars ran back, and before the men could reach a place of safety, which was a cross-cut from airway to slope, fifty feet away, the cars jumped the track, struck them and caused the death of both. There was a cross-cut almost directly opposite the box on which they were sitting, only thirteen feet away, and to which a young boy escaped when he heard the cars coming, and these men could have done so but for some reason chose to make for the cross-cut fifty feet away, and were killed within fifteen feet of it.

Martin Casey, an Irish driver, was almost instantly killed at No. 1 tunnel on August 8. He was walking alongside of a mule that was hauling out two cars to the head of a run, and when at a place on the gangway where the pillar projected to within fifteen inches of the rail, he was caught and squeezed to death. The runner, who was on the rear end of the last car stated that the cars were traveling at a slow rate of speed, as there was a sprag in the rear wheel of the car on which he was standing. He could not say, however, whether Casey was pushed against the rib by the mule or whether he bumped his head against it as he was walking along, but he saw him squeezed between the car and the rib and hurried to his rescue, and in a very short time had him released, but found that he was fatally injured and he died in about five minutes. This gangway was wide enough for persons to pass moving cars with safety at this point if they traveled on the lower side, where there was a space of 3 to 4 feet opposite where the boy was squeezed. On the upper side, at the bottom of the gangway, there was a space of two feet five inches, but on a level with the top of the car there was but seven inches from car to rib for a distance of nine feet. The vein pitches about eleven degrees, and the rib was left overhanging when the gangway was driven, many years ago. Narrow gangways seem to have been the rule in the early days of mining, and now it is almost impossible to widen them, inasmuch as the upper vein has been worked out and caved in many sections of this and other mines in this vicinity, but a marked improvement in the general condition of the main roads of this mine has been made from the tunnel mouth for a great distance into the workings, and is being continued. Rule 43, of Article 12, of the Mine Law, states that "every passage-way used by persons in any mine, and which is also used for the transportation of coal or other material, shall be made of sufficient width to permit persons to pass moving cars with safety." As already stated, persons could pass moving cars with safety on the opposite side to where the boy was killed, as there was ample space; and on the upper side of the road, except here and there, was a safe width. In addition to a gangway being sufficiently wide for persons to pass moving cars

with safety, as the law requires, there should be, wherever practicable, an uniform width of not less than two feet on the side most frequently traveled by drivers and runners. For a gangway that has an occasional narrow place on it is in some respects similar to a powder house built of brick or stone with a wooden roof on, safe at all points but one. To prevent accidents of this kind, the adoption of a rule making an ample space on upper side of all mine roads has been urgently recommended.

On September 16, John A. Taylor, an English door boy, was killed at the Pancoast mine. A few minutes before he was killed, he and the runner were sitting on the side of a slope waiting for the airway men to load their car so that they could "change" them. Word was received from the men that their car was loaded. The runner then walked up to the branch and gave the engineer the signal to hoist. As the car started he heard the boy shout and instantly gave the signal to stop, and went back to see what was wrong and found him under the car, badly crushed. As the boy was sitting in a safe place when the runner left him, it can only be inferred from the position in which he was found, that as the car started, he tried to get upon the bumper, but slipped and fell under. He was a very active boy and was in the habit of jumping on and off cars, and though several times warned, persisted in doing so, but, like many before, he finally was caught.

On September 27, at the Highland Park drift, a Hungarian driver, named Mat. Matchuck, was instantly crushed to death. He was standing, in a stooped position, on the bumper of the first car of a trip of four that was being hauled out a gangway by a mule, and in moving, probably, fell off and under the first car, and was dragged twenty-eight feet before the cars stopped. There was, where he fell off, a space of two feet ten inches from rail to rib, and where he was found, four feet.

An American driver named Frank Davis was killed at Grassy Island slope on the 14th of November. While stooping to unhitch his mule from a car, he slipped and fell between the bumper of the first car of the trip and the rear bumper of a trip that was standing on first lift of slope. He was fatally crushed and died a short time after.

George Marr, an English driver, was killed at Eddy Creek on November 21. He was driving between the foot of one plane and the head of another, a mule hitched to a trip of six cars. When the mule started he got on the bumper of the first car, but the mule did not go fast enough to please him, and he jumped off to stir him up, walked alongside of him for a short distance, then tried to get on again, but missed his step, fell under and was dragged for about forty feet. This was unavoidable, but as the distance was short

between the two planes, the boy could have walked instead of riding, but chose the latter, and in trying to get on lost his life as a result.

George Flowright, an English runner, was killed at Storrs No. 2 on November 22. His work was to run cars from foot of a plane to branch at foot of shaft, and often while the trip was coming down under control, he would sit on the bumper, in the absence of the foreman or driver boss, who repeatedly warned him not to do so, and as late as the day preceding he was cautioned against the very act that cost him his life. He was seen by a driver on this road sitting on the bumper on day of accident, and it could be inferred from the position in which he was found that he was trying to get on when he fell. Sitting on the bumpers of moving cars is a very dangerous and foolhardy practice, obtaining among nearly all the drivers and runners of most of the mines of this district, and though repeatedly warned of the danger attending it, will, the moment the foreman and driver boss are out of sight, indulge in it again. In some mines they have been suspended, and even discharged, but to no purpose, and it is doubtful if the habit can be broken up until the act is made an offense, with a penalty attached.

By Blasts.

Stanley Urban, a Polish miner, was fatally injured at the Pancoast mine on May 16. His statement was that the cartridge of powder was too large and that he first tried to force it to the back of the hole with a scraper, but failed. He then took a drill to force it back and this caused it to explode, which drove the drill through his thigh and otherwise injured him so that he died on his way to the hospital. This undoubtedly was due to recklessness on his part, for he was an experienced miner and knew better, but in a moment of thoughtlessness made this mistake.

On July 8 an Irish miner named Martin Heanigan, was instantly killed at the Murray shaft. He ignited two squibs so as to fire two shots at the same time, and then retired to a cross-cut to await results. In a short time an explosion took place, but he was at a loss to know whether one or both holes had exploded. After waiting a short time he returned to the face and found one of the holes remaining, and seeing there was no squib in it, went back to second cross-cut for one, and returned with it to the face. But just as he was about to insert it, the hole "went off" and he was instantly killed by a blow on the temple. His laborer says he was a careful miner, and he never had seen him light two holes at the same time before and could not account for it this time, as there was no need for hurry, as he had plenty of coal on hand.

On August 1 Andrew Carter, an American miner, was fatally in-

jured at Richmond No. 4. He was "robbing" pillars and was working on one between two breasts and had it nearly removed when he fired the fatal shot. The place was properly worked so far as removing the coal and timbering were concerned, but the mistake he made was in misjudging the thickness of the pillar behind which he and his laborer sought shelter. After lighting the squib both ran out to the gangway, a distance of fifteen feet, then down the road about the same distance to a cross-cut into which they retreated about fifteen feet to await the shot's explosion, which, in a short time occurred, with fearful results. It was afterwards discovered that the hole had been drilled to within a foot of being through the pillar. This was an unavoidable accident and was caused by an error of judgment on the part of the miner as to the thickness of the pillar. He and his laborer could have gone down the main road had they the least idea that the hole was going to blow through, and it is needless to say would have done so. Carter was a careful and intelligent man and it seems strange that he made this mistake; yet human nature is liable to err.

At the Pancoast shaft, on September 1, a Polish laborer named Frank Mecoski was instantly killed. The miner for whom he was working was driving a cross-cut from his own place to the one on the outside. He was about to fire a hole, and sent his laborer around to the "next place" to give the usual warning. He did so and returned and told his miner it was "all right, fire away." The miner then lit the squib and both men retired to a place of safety, which was the cross-cut sixty feet below. Here they stayed until they heard a shot "go off," and, thinking it was theirs, went up into the "breast" which they expected to break into. And while standing about twelve feet away, looking toward the place they expected it to blow through, it exploded and the flying pieces of coal struck the laborer and instantly killed him and very seriously injured the miner. The shot which they supposed was theirs was fired by a miner in the second breast outside. It was a very serious mistake on their part, and one that is seldom made.

Falling Down Shaft.

On May 24 Joseph Jay, an English weighmaster, was fatally injured at Jermyn No. 1. At the investigation of this accident it was learned that he was coming down on the cage from the head of the breaker to the ground landing, and when near it, he stepped off before the cage stopped, and fell backward on to the cage where it came to a stop ten feet below the landing. After work had ceased, the engineer stepped out of the engine house for a few moments to help some men with a car, and while doing so he heard three raps from the

bottom to hoist a cripple car to the surface. Answering the signal he started the engines at a very slow rate of speed and was running slowly when Jay stepped off, as both cages met a short distance below the surface. Being after working hours and not expecting any one at the head, the engineer started the cage away from the head without a signal and did not know there was any one on, until told by the assistant foreman who saw the man step off and then fall back as the cage passed the landing. It was also learned that Jay was in the habit of coming down on the cage after "all over" and nine times out of ten would step off while the cage was in motion, and on two occasions he had been cautioned not to do so for fear that something would happen. There was no understanding between him and the engineer, as there should have been, and he should not have gotten on the cage when there was none. Then, again, when he was on he should have remained on until it stopped and not have stepped off as he did, and from the evidence, had done many times without injury But having done this frequently he thought nothing of the danger attending it, but happened not to step far enough this time and overbalanced backward with serious results. There was easy means of communication between the engineer and headman, the footmen and surface landing, and before the man got on, or the cages were moved, there should by all means have been a thorough understanding between them, then this accident would not have been added to the list of casualties.

Nicenty Menstyn, a Polish laborer, met death at Johnson No. 1 air shaft on June 2. During the short absence of a footman, who had gone to a stable 500 feet distant, ten persons came to the landing, several of whom were company men, and drivers, and rang for the cage, which was given them, and they got on it to go up. After they were on and the signal had been given, this man came on the scene just before the cage started, and opened the safety gate in spite of the warnings given him by several of those on the cage, and by one in his own language, and made an effort to get on also, but just as he took a step forward the cage started and threw him backward, and then falling forward he plunged down the shaft a distance of 764 feet. A footman is in constant attendance at this landing, but for a few minutes at this time was absent by the foreman's orders, who had told him to go to the stable and tell the driver boss to provide a driver for the night shift. Before going, however, he notified the engineer not to give the cage to anyone unless he received the "company hands" signal, which is one bell, a pause, and then two bells. This the engineer says he received, and lowered the cage and in a short time received the signal to hoist. The safety gate which the man opened after being told that there were ten men on the cage is two and a half feet from the edge of shaft and the

signal wire is outside of it. The man did wrong in attempting to get on the cage after the signal had been given, and, on the other hand, he would not have attempted it had the footman been at his post, which shows the importance of keeping a footman constantly in attendance at such places, for there are many persons working in the mines, as in other places, who must have some one continually watching them to prevent them from running into danger. Rule 40, of the Mine Law, states plainly that a footman and headman shall be at their proper places from the time that persons begin to descend until all the persons who may be at the bottom of shaft or slope when ceasing work, shall be hoisted. Rule 41 states just as plainly that "no person, except the man giving the signal, shall jump on a car, cage or gunboat after the signal to start has been given."

Victor Valentonovitch, a Polish laborer, was killed on July 12 at Clifford mine. While going up the shaft on a cage, with three other men, one of whom was his uncle, he fell forward full length on the cage, so that his head hung over the edge and he was caught between the end of the shaft and cage, drawn over and fell to the bottom of the shaft, a distance of fifty feet. It was his second ride on the cage and it is thought that he became dizzy.

Kicked by Mules.

On August 8, Amzi D. VanCampen, stable boss, was fatally injured at the Pancoast mine. He was leading a mule to water in a mine stable, when the animal tried to get away from him, and VanCampen, after trying for some time to hold him, failed and let him go, and at the same moment the brute turned around and kicked him in the groin and so seriously injured him that he died two days after.

John Smith, a Polish driver at Johnson No. 2, was fatally injured on November 10. The team he was driving stopped, as it was pulling a car up into a chamber, and at the same moment he stepped forward using his whip to start them and received the kick that caused his death on the following day.

Explosion of Gas.

Patrick Hastings, an American miner, was fatally burned on September 20, at Olyphant No. 2, and died on the 22d. While a car was passing through a door on gangway road, during the night shift, it jumped the track and broke the door, which allowed the air to pass by a short route to the return. In the morning the fire boss discovered about six inches of gas near the roof in two places, extending back about twenty feet from face, and later found the door broken. When the men came to work they were notified of this

gas and told not to go further than the foot until fire boss came to remove it. A canvas was strung across the gangway on door frame, and when fire boss arrived he failed to find any gas and the men were put to work and continued up to the time of the accident, which was about 2 o'clock P. M. After clearing the gas and putting the men to work, he went to the face of the gangway and found everything safe and clear, and then turned his attention to the door and helped to put it on the hinges, then, about 11.45 A. M., left the place. It was about 12 o'clock when the door was completed, but during the time he was working at it the canvas door was down part of the time. Once, between 10 and 11 o'clock, when he expected to have the canvas down for a short time, he took the precaution of going to the places and told the men of it, and told them that if there was any danger from gas they should leave their places for a short time; to which they replied there would be no danger for that length of time. The evidence showed that the gangway and airway had been stopped for about two months, during which the fire boss traveled with the air and passed through a cross-cut directly at the face of airway on his route every morning. The cross-cut at the face was driven in the top bench, against the roof, and had an area of fifteen square feet. Another having an area of forty-eight square feet was driven from airway to gangway at a distance of seventy-two feet. This one was partially contracted by a brattice built along the gangway to within twenty feet of the face. Part of the current traveled inside of this brattice to its end, and part went to face of airway, then through the cross-cut at face, then out the gangway and united with the brattice split at end of brattice, then traveled out the gangway to Hastings' chamber. When the airway door was open the current was absent, and the probability is that it was left open between half past 12 and 2 o'clock, as the miner working next place to Hastings, stated that he was at the face of the gangway about half past 12 and remained there for about five minutes. Hastings was burned about 2 P. M., which shows that the gas gathered there in that time. No fence was put up to prevent persons going to face of gangway for the reason that it was the main air course, and the fire boss traveled through the place each day, and the foreman every other day, and no gas had been discovered up to this time. The sole cause of its presence at this time was caused by the airway door having been left open too long.

By Cars (Outside).

At Gypsy Grove washery, on May 10, Cartridge Haggerty, a slate picker was instantly killed. He had been assisting to unload a car of coal on a railroad switch. After it was unloaded he was told to step to one side while two other gondolas were being run down against

the one recently emptied. He got out of the way and watched the two cars coming slowly toward him. When within a short distance of bumping he, for some reason, made an effort to cross the track, but failed and was caught between the bumpers and crushed to death.

Alex. Spicuak, an Austrian culm man, was instantly killed at Johnson's breaker on the 23d of September. He was employed in pushing loaded culm cars to foot of plane and coupling them. While he was coupling two cars the rope on culm plane broke, allowing the two loaded cars to go back to foot of plane, killing him before he could get out of their way. There was evidence to show that there was a standing order from the foreman to all men at foot of plane to stay away while a trip was being hoisted, but in this case it was not complied with. There were head blocks at head of plane to prevent cars from getting away from head, but there were no "runaway" latches on plane.

James McHale, an Irish locomotive fireman, was instantly killed on a mine railroad between Grassy Island slope and Olyphant No. 2 breaker on October 24. He was riding down on a trip of cars drawn by a small locomotive. The trip became uncoupled and he got on the rear end of the first section to couple it when cars would come together. In stooping to reach for a coupling on the second section he fell off and the trip ran over him. To prevent accidents of this kind, orders were given to stop the trip whenever it became uncoupled and under no circumstances to attempt to couple it while in motion.

TABLE I—Showing Names of Operators, etc., etc., and Location of Collieries in the First Anthracite District for 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	P. O. Address.
Delaware and Hudson Co.				
Leggetts Creek,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Marvine,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Eddy Creek,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Olyphant,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Grassy Island washery,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Grassy Island,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
White Oak,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Jermyn No. 1,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
No. 1 shaft,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Powderly,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Racket Brook breaker,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Racket Brook washery,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Coal Brook,	Lackawanna,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Clinton,	Wayne,	Delaware and Hudson Company,	C. C. Rose,	Scranton, Pa.
Pennsylvania Coal Company.				
No. 1 shaft,	Lackawanna,	Pennsylvania Coal Company,	George B. Smith,	Scranton, Pa.
No. 2 shaft,	Lackawanna,	Pennsylvania Coal Company,	George B. Smith,	Scranton, Pa.
Gipsy Grove,	Lackawanna,	Pennsylvania Coal Company,	George B. Smith,	Scranton, Pa.
Gipsy Grove washery,	Lackawanna,	Pennsylvania Coal Company,	George B. Smith,	Scranton, Pa.
Forest Mining Company.				
Forest mine,	Lackawanna,	Forest Mining Company,	E. S. Jones,	Olyphant, Pa.
Riverside Coal Company.				
Riverside,	Lackawanna,	Riverside Coal Company,	J. M. Rice,	Scranton, Pa.
Kingsley Coal Company.				
Hawley washery,	Wayne,	Kingsley Coal Company,		
Del., Lacka. & West. R. R.				
Storrs,	Lackawanna,	Del., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
N. Y. and Scranton Coal Co.				
Ontario,	Lackawanna,	New York and Scranton Coal Co.,	W. H. Storrs,	Scranton, Pa.
Blue Ridge,	Lackawanna,	New York and Scranton Coal Co.,	W. H. Storrs,	Scranton, Pa.
Pancoast Coal Co.				
Pancoast,	Lackawanna,	Pancoast Coal Co.,	Chas. D. Sanderson,	Throop, Pa.
Elk Hill Coal and Iron Co.				
Richmond No. 3,	Lackawanna,	Elk Hill Coal and Iron Company,	W. H. Storrs,	Scranton, Pa.
Richmond No. 4,	Lackawanna,	Elk Hill Coal and Iron Company,	W. H. Storrs,	Scranton, Pa.
Murray Carney & Brown.				
Murrays,	Lackawanna,	Murray, Carney & Brown,	M. J. Murry,	Dunmore, Pa

Moosic Mountain Coal Co.				
Moosic Mountain,	Lackawanna,	Moosic Mountain Coal Company,		
Mt. Jessup,	Lackawanna,	Mt. Jessup Coal Company,		
Johnson Coal Co.				
Johnson's Nos. 1 and 2,	Lackawanna,	Johnson Coal Co.,	John R. Bryden,	Scranton, Pa.
Temple Iron Company.				
Lackawanna,	Lackawanna,	Temple Iron Company,	J. L. Crawford,	Scranton, Pa.
Sterrick Creek,	Lackawanna,	Temple Iron Company,	J. L. Crawford,	Scranton, Pa.
Edgerton,	Lackawanna,	Temple Iron Company,	J. L. Crawford,	Scranton, Pa.
Northwest (Simpson),	Lackawanna,	Temple Iron Company,	J. L. Crawford,	Scranton, Pa.
Dolph Coal Co.,	Lackawanna,	Dolph Coal Company,	W. G. Robertson,	Scranton, Pa.
Hillside Coal and Iron Co.				
Forest City,	Susquehanna,	Hillside Coal and Iron Company,	W. A. May,	Scranton, Pa.
Clifford,	Susquehanna,	Hillside Coal and Iron Company,	W. A. May,	Scranton, Pa.
Erie,	Lackawanna,	Hillside Coal and Iron Company,	W. A. May,	Scranton, Pa.
Keystone,	Lackawanna,	Hillside Coal and Iron Company,	W. A. May,	Scranton, Pa.
Glenwood,	Lackawanna,	Hillside Coal and Iron Company,	W. A. May,	Scranton, Pa.
Franklin Coal Company.				
Franklin,	Lackawanna,	Franklin Coal Company,	W. H. Hollister,	Pittston, Pa.
Ontario Coal Company.				
Winton washery,	Lackawanna,	Ontario Coal Company,	F. P. Christian,	Scranton, Pa.
Clark Tunnel Coal Co.				
Clark tunnel,	Lackawanna,	Clark Tunnel Coal Company,	Morgan Davis, Jr.,	Scranton, Pa.

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	P. O. Address.	Names of Assistant Superintendents.	Name of Inside Foreman.	Name of Outside Foreman.
Delaware and Hudson Co.					
Leggetts Creek,			J. L. Atherton, ... Finley Ross, ...	Daniel M. Jones, ...	Geo. W. Constantine.
Marvine,			J. L. Atherton, ... Finley Ross, ...	Andrew Smith, ... Edward McGlyn, ...	George Griffin.
Eddy Creek,			L. L. Sarge, ...	Enoch Thomas, ...	Joseph Bell.
Olyphant,			L. L. Sarge, ...	John Lavin, ...	John Mooney.
Grassy Island washery,			J. L. Atherton, ...	.....	A. C. Hazen.
Grassy Island,			L. L. Sarge, ...	David E. Lewis, ...	J. P. Hollister.
White Oak,			J. K. Rose, ...	John Kearney, ...	Charles Battenburg.
Jermyn No. 1,			J. K. Rose, ...	Thomas H. Evans, ...	Thomas Hunter.
No. 1 shaft,			J. K. Rose, ...	P. J. Moore, ...	M. R. Campbell.
Powderly,			J. K. Rose, ...	Thomas Jerdon, ...	M. R. Campbell.
Racket Brook breaker,			J. K. Rose, ...	.....	J. P. Loftus.
Racket Brook washery,			J. K. Rose, ...	.....	J. P. Loftus.
Coal Brook,			J. K. Rose, ...	John Scott, ...	Henry Carter.
Clinton,			J. K. Rose, ...	Richard Beir, ...	Fred. Smith.
Pennsylvania Coal Company.					
No. 1 shaft,	Alex. Bryden, ...	Dunmore, Pa., ...	James Young, ...	James R. Nelson, ...	Jacob Gromlich.
No. 2 shaft,	Alex. Bryden, ...	Dunmore, Pa., ...	James Young, ...	James R. Nelson, ...	Jacob Gromlich.
Gipsy Grove,	Alex. Bryden, ...	Dunmore, Pa., ...	James Young, ...	William S. Jones, ...	Edward Keen.
Gipsy Grove washery,	Alex. Bryden, ...	Dunmore, Pa., ...	James Young, ...	.....	Jacob Gromlich.
Forest Mining Company.					
Forest mine,	.....	.....	.....	Henry Chapman, ...	E. A. Jones.
Riverside Coal Company.					
Riverside,	.....	.....	.....	S. B. Williams, ...	Z. H. Tinklepaugh.
Kingsley Coal Company.					
Hawley washery,	W. H. Shipman, ...	Hawley, Pa., ...	.....	.....	W. H. Shipman.
Del., Lacka. & West. R. R.					
Storrs,	.....	.....	R. A. Phillips, ...	James Thomas, ... Isaas S. Jouse, ... Samuel Lewis, ...	Jacob Bowman.
N. Y. and Scranton Coal Co.					
Ontario,	William L. Allen, ...	Peckville, Pa., ...	.....	Robert Burleigh, ...	Harry Simpson.
Blue Ridge,	William L. Allen, ...	Peckville, Pa., ...	.....	James W. Smith, ... David W. Brown, ...	
Pancoast Coal Co.					
Pancoast,	.....	.....	.....	J. V. Birtley, ...	Thomas J. Houg.

Elk Hill Coal and Iron Co.					
Richmond No. 3,	William L. Allen,	Peckville, Pa.,		Hugh McCutchen,	Frank M. Norton.
Richmond No. 4,	William L. Allen,	Peckville, Pa.,		Thomas Parry, Jr.,	Frank E. Lott.
Murray, Carney & Brown.					
Murrays,	John Carney,	Dunmore, Pa.,		M. J. Murray,	John Carney.
Moosic Mountain Coal Co.					
Moosic Mountain,	Charles P. Ford,	Marshwood, Pa.,		James Tasker,	Patrick Hevers.
Mt. Jessup,	Charles P. Ford,	Marshwood, Pa.,		Stephen Cairns,	Nelson Nothstein.
Johnson Coal Co.					
Johnson's Nos. 1 and 2,	John Berkheiser,	Olyphant, Pa.,		John O'Hara, Edward Evans, Jr.,	John Aitken.
Temple Iron Company.					
Lackawanna,	James G. Shepherd,	Scranton, Pa.,	John G. Hayes,	David C. Evans, M. Berkheiser,	Wm. McGlaughlin.
Sterrick Creek,	James G. Shepherd,	Scranton, Pa.,	John G. Hayes,	Thomas Lurgan, C. F. Rehbein,	Wm. Brown.
Edgerton,	James G. Shepherd,	Scranton, Pa.,	Frank Hemelright,	John Morian, Patrick Walsh,	Frank Taylor.
Northwest (Simpson),	James G. Shepherd,	Scranton, Pa.,	John White,	Thomas Jenkins,	Mike Connolly.
Dolph Coal Co.,				M. M. Hughes, Chas. R. Burnett,	Charles Page.
Hillside Coal and Iron Co.					
Forest City,			V. L. Peterson,	Benjamin Mavey, S. J. Jennings,	John F. Gallagher.
Clifford,			V. L. Peterson,	James White,	R. E. Randall.
Erie,			William Walker,	Michael Barbour,	James Walker.
Keystone,			William Walker,	M. J. Glennon,	W. J. Bergen.
Glenwood,			William Walker,	Charles Davis,	R. Kirwin.
Franklin Coal Company.					
Franklin,	W. H. Hollister,	Pittston Pa.,		Joseph Walsh,	Neil Ferguson.
Ontario Coal Company.					
Winton washery,	F. G. Rice,	Peckville, Pa.,			F. G. Rice.
Clark Tunnel Coal Co.					
Clark tunnel,				John Indian,	J. B. Fahringer.

TABLE II—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the First Anthracite District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Delaware and Hudson Company.												
Leggetts Creek,	Lackawanna,	179,221	28,529	4,115	211,865	192.75	537	2	4	6,343	2,687	56
Marvine,	Lackawanna,	298,248	22,389	3,183	323,820	212.75	631	1	10	9,058	2,393	61
Eddy Creek,	Lackawanna,	197,045	7,030	1,747	205,822	203.75	625	3	5	9,073	1,050	50
Olyphant,	Lackawanna,	355,443	33,645	4,154	406,119	201.75	561	1	3	8,283	2,203	57
Grassy Island,	Lackawanna,	.....	12,877	.....	.....	194.5	426	5	3	5,218	193	44
Grassy Island washery,	Lackawanna,	85,598	.....	.....	85,598	216.5	28	.....	.....	.....	.....	.....
White Oak,	Lackawanna,	161,803	2,188	1,386	165,377	160	395	.....	3	3,634	5,660	51
Jermyn No. 1,	Lackawanna,	256,979	13,134	4,315	274,428	204.25	545	4	2	5,560	357	46
No. 1 shaft,	Lackawanna,	78,996	7,220	.....	86,216	190.25	434	1	1	3,256	667	56
Powderly,	Lackawanna,	78,237	12,994	.....	91,231	201.25	295	.....	1	4,357	1,792	40
Racket Brook breaker,	Lackawanna,	130,212	3,850	.....	134,062	204	72	.....	.....	.....	.....	1
Racket Brook washery,	Lackawanna,	22,742	.....	.....	22,742	74.75	14	.....	.....	.....	.....	.....
Coal Brook,	Lackawanna,	258,624	7,950	712	267,286	183.25	758	2	2	9,241	3,475	77
Clinton,	Wayne,	240,021	10,951	1,540	252,512	203.75	457	1	.....	8,929	2,369	48
Totals and averages,		2,343,269	162,757	21,152	2,527,178	189.4	5,778	20	34	72,912	22,186	581
Pennsylvania Coal Company.												
No. 1 shaft,	Lackawanna,	205,428	2,885	.....	208,313	184.5	479	2	2	8,219	1,387	46
Gipsy Grove,	Lackawanna,	143,658	2,283	.....	145,941	182.5	334	3	4	5,389	784	36
Gipsy Grove washery,	Lackawanna,	32,384	6,973	.....	39,357	122.8	31	1	.....	.....	.....	2
Totals and averages,		381,470	12,141	.....	393,611	163.3	844	6	6	13,608	2,171	84

Hillside Coal and Iron Company.												
Forest City,	Susquehanna,	265,575	11,489	8,690	439,890	182	788	1	4	16,702	5,338	74
Clifford,	Susquehanna,	327,278	10,896	197	184,235	175.75	422	1	2	7,882	7,772	45
Erie,	Lackawanna,	136,514	12,609	5,614	154,737	172	403	2	.....	4,743	3,129	43
Keystone,	Lackawanna,	46,996	1,078	.....	48,074	175.25	127	.....	.....	1,527	497	23
Glenwood,	Lackawanna,	96,184	10,453	487	107,124	132	363	.....	1	3,880	8,416	38
Totals and averages,		872,547	46,525	14,988	934,060	167.4	2,123	4	7	34,734	25,152	223
Delaware, Lackaw'a and Western Coal Co.												
Storrs,	Lackawanna,	593,190	26,551	2,965	622,706	219.5	1,183	3	14	21,948	5,772	115
New York and Scranton Coal Company.												
Blue Ridge,	Lackawanna,	63,730	15,060	358	79,088	89.8	459	1	2	3,185	.....	41
Ontario,	Lackawanna,	241,954	15,000	3,973	260,927	247.9	586	3	3	12,200	1,450	52
Totals and averages,		305,684	30,000	4,331	340,015	168.85	1,045	4	5	15,385	1,450	93
Pancoast Coal Co.												
Pancoast,	Lackawanna,	225,066	29,080	4,227	258,423	222.5	646	5	10	12,222	17,084	78
Elk Hill Coal and Iron Company.												
Richmond No. 3,	Lackawanna,	1,528	5,475	926	7,929	18.3	101	.....	.....	.....	5,700	8
Richmond No. 4,	Lackawanna,	73,999	5,840	1,845	81,684	133.1	223	1	2	2,350	2,550	31
Totals and averages,		75,527	11,315	2,771	89,613	75.7	324	1	2	2,350	8,250	39
Murray, Carney & Brown.												
Murray's,	Lackawanna,	67,069	40	8,157	75,266	228.5	110	1	2	2,425	800	17
Moosic Mountain Coal Company.												
Moosic Mountain,	Lackawanna,	123,454	3,000	2,517	128,971	181.7	235	.....	4	5,681	700	39
Mt. Jessup,	Lackawanna,	70,507	15,000	1,468	86,975	195.5	247	3	3	1,975	17,900	26
Totals and averages,		193,961	18,000	3,985	215,946	188.6	482	3	7	7,056	18,600	65
Johnson Coal Co.												
Johnson's, Nos. 1 and 2,	Lackawanna,	375,958	35,240	2,023	413,221	233.5	925	4	7	17,375	8,000	95
Temple Iron Company.												
Lackawanna,	Lackawanna,	224,113	24,035	3,914	252,062	201.8	597	3	5	8,529	.....	80
Sterrick Creek,	Lackawanna,	167,518	7,553	3,128	178,199	175.1	544	.....	5	8,080	7,000	71
Edgerton,	Lackawanna,	166,653	9,995	546	177,194	133.4	348	5	1	3,962	300	68
Northwest, or Simpson,	Lackawanna,	256,289	8,712	902	265,903	203.3	477	3	7	6,535	1,035	100
Totals and averages,		814,573	50,295	8,490	873,358	178.4	1,966	11	18	27,106	8,335	328
Dolph Coal Company.												
Dolph,	Lackawanna,	166,584	15,000	1,295	182,879	143.9	544	3	1	4,766	2,250	56
Forest Mining Company.												
Forest mine,	Lackawanna,	314,312	7,665	1,518	323,495	213.8	661	2	2	10,144	200	53

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Riverside Coal Company.												
Riverside,	Lackawanna,	33,534	10,950	122	44,606	118.7	286	1	1	2,167	330	28
Kingsley Coal Company.												
Hawley washery,	Wayne,	20,243	3,200	.....	23,443	118	9	.....	.....	.....	.....	.....
Clark Tunnel Co.												
Clark tunnel,	Lackawanna,	4,007	188	6,600	10,795	187.9	37	.....	.....	240	.....	10
Franklin Coal Company.												
Franklin,	Lackawanna,	20,816	2,700	1,570	25,086	134.75	150	.....	.....	428	500	23
Ontario Coal Company.												
Winton washery,	Lackawanna,	15,395	5,475	.....	20,870	122	30	.....	.....	.....	.....	.....
Totals and averages,	.....	6,823,205	467,122	84,244	7,374,571	174.26	17,143	68	116	244,866	121,680	1,888

Recapitulation.

Name of Colliery.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Delaware and Hudson Company,	2,343,269	162,757	21,152	2,527,178	189.4	5,778	20	34	72,912	22,186	581
Hillside Coal and Iron Company,	872,547	46,525	14,988	934,060	167.4	2,123	4	7	34,734	2,171	223
Temple Iron Company,	814,573	50,295	8,490	873,358	173.4	1,966	11	18	27,106	8,335	328
Delaware, Lackawanna and Western Railroad Company,	593,190	26,551	2,965	622,706	219.5	1,183	3	14	21,948	5,772	115
Johnson Coal Co.,	375,958	35,240	2,023	413,221	233.5	925	4	7	17,375	8,000	95
Pennsylvania Coal Company,	381,476	12,141	.....	393,611	163.3	844	6	6	13,608	25,152	84
New York and Scranton Coal Company,	305,684	30,000	4,331	340,015	168.85	1,045	4	5	15,385	1,450	93
Forest Mining Company,	314,312	7,665	1,518	323,495	213.8	661	2	2	10,144	200	53
Pancoast Coal Company,	225,066	29,080	4,277	258,423	222.5	646	5	10	12,222	17,084	78
Miscellaneous coal companies,	597,136	66,868	24,500	688,504	176.9	1,972	9	13	19,432	30,730	238
Totals and averages,	6,823,205	467,122	84,244	7,374,571	174.26	17,143	68	116	244,866	121,080	1,888

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.					Locomotives—steam.	Locomotives—air.	Locomotives—electric.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.										
Delaware and Hudson Co.																
Leggetts Creek,	Lackawanna,	24	480	4	520	1,000	.....	3	.....	18	1,370	3	4,000	2,440	.....	1
Marvine,	Lackawanna,	32	640	.....	.....	640	.....	1	.....	22	1,641	1	3,000	2,000	.....	.....
Eddy Creek,	Lackawanna,	6	120	.....	.....	120	.....	.....	.....	17	1,066	2	2,000	1,500	.....	.....
Olyphant,	Lackawanna,	.....	.....	5	1,250	1,250	1	.....	.....	15	997	2	3,600	2,310	.....	.....
Grassy Island,	Lackawanna,	21	210	.....	.....	210	2	.....	.....	12	500	4	3,200	2,000	.....	.....
Grassy Island washery,	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	1	56	.....	.....	.....	.....	.....
White Oak,	Lackawanna,	9	180	.....	.....	180	.....	.....	.....	4	255	.....	.....	.....	.....	.....
Jermyn No. 1,	Lackawanna,	.....	.....	4	480	480	.....	.....	.....	7	400	2	1,300	1,000	.....	.....
No. 1 shaft,	Lackawanna,	15	300	.....	.....	300	.....	.....	.....	8	300	4	5,860	4,312	.....	.....
Powderly,	Lackawanna,	18	360	.....	.....	360	.....	.....	.....	7	360	4	2,000	1,500	.....	.....
Racket Brook breaker,	Lackawanna,	5	100	.....	.....	100	.....	.....	.....	3	100	.....	.....	.....	.....	.....
Racket Brook washery,	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	1	50	.....	.....	.....	.....	.....
Coal Brook,	Lackawanna,	6	120	2	240	360	3	3	.....	9	710	1	250	200	.....	1
Clinton,	Wayne,	16	320	.....	.....	320	.....	.....	.....	15	320	2	800	450	.....	.....
Totals and averages,		152	2,830	15	2,490	5,320	6	7	.....	142	8,125	25	26,210	17,712	.....	2
Pennsylvania Coal Co.																
No. 1 shaft,	Lackawanna,	.....	.....	7	1,000	1,000	2	.....	.....	18	819	1	440	365	.....	.....
Gipsy Grove,	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	12	1,125	1	350	350	.....	.....
Gipsy Grove washery,	Lackawanna,	.....	.....	.....	.....	.....	1	.....	.....	2	160	3	2,000	1,800	.....	.....
Totals and averages,		.....	.....	7	1,000	1,000	3	.....	.....	32	1,464	5	2,790	2,515	.....	.....
Hillside Coal and Iron Co.																
Forest City,	Susquehanna,	8	240	12	960	1,200	2	.....	4	11	970	4	1,610	1,230	5	.....
Clifford,	Susquehanna,	.....	.....	8	760	760	2	.....	.....	9	495	4	1,680	1,270	.....	.....
Erie,	Lackawanna,	24	720	.....	.....	720	.....	.....	.....	7	310	5	3,352	2,700	2	.....
Keystone,	Lackawanna,	2	60	.....	.....	60	.....	.....	.....	1	30	.....	.....	.....	.....	.....
Glenwood,	Lackawanna,	.....	.....	10	765	765	.....	.....	.....	7	410	8	4,359	2,849	.....	.....
Totals and averages,		34	1,020	30	2,485	3,505	4	.....	4	35	2,215	21	11,031	8,049	7	.....

Del., Lacka. and Western Coal Co.																
Storrs,	Lackawanna,	12	540	10	1,350	1,890	3	.....	.....	20	1,860	1	800	800	.....	.....
New York and Scranton Coal Co.																
Blue Ridge,	Lackawanna,	13	225	1	75	300	2	.....	.....	13	775	1	400	220	.....	.....
Ontario,	Lackawanna,	18	450	3	325	775	2	.....	2	16	1,395	3	750	560	2	.....
Totals and averages,		31	675	4	400	1,075	4	.....	2	29	2,170	4	1,150	780	2	.....
Pancoast Coal Co.																
Pancoast,	Lackawanna,	15	285	3	315	600	.....	.....	.....	12	1,226	2	754	500	2	.....
Elk Hill Coal and Iron Co.																
Richmond No. 3,	Lackawanna,	6	375	5	625	1,000	1	.....	.....	7	625	2	950	400	.....	1
Richmond No. 4,	Lackawanna,	.....	.....	5	420	420	.....	.....	.....	5	290	1	500	220	.....	1
Totals and averages,		6	375	10	1,045	1,420	1	.....	.....	12	915	3	1,450	620	.....	2
Murray, Carney & Brown.																
Murrays',	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	4	200	.....	.....	.....	.....	.....
Moosic Mountain Coal Co.																
Moosic Mountain,	Lackawanna,	7	175	2	75	250	1	.....	.....	6	255	1	400	300	1	.....
Mt. Jessup,	Lackawanna,	17	425	5	350	775	2	.....	.....	13	842	2	1,400	1,200	.....	1
Totals and averages,		24	600	7	425	1,025	3	.....	.....	19	1,097	3	1,800	1,500	1	1
Johnson Coal Co.																
Johnson's, Nos. 1 and 2,	Lackawanna,	.....	.....	11	1,375	1,375	1	.....	2	19	1,850	4	3,854	1,973	1	.....
Temple Iron Co.																
Lackawanna,	Lackawanna,	24	1,080	3	300	1,380	1	.....	.....	12	1,031	5	4,536	3,736	.....	.....
Sterrick Creek,	Lackawanna,	9	360	2	450	810	3	.....	.....	6	914	2	1,514	700	.....	1
Edgerton,	Lackawanna,	6	114	2	200	314	4	.....	.....	6	500	.....	.....	.....	.....	.....
Northwest, or Simpson,	Lackawanna,	19	494	3	365	859	3	.....	.....	14	970	.....	.....	.....	.....	2
Totals and averages,		58	2,048	10	1,385	3,433	11	.....	.....	39	3,415	7	6,050	4,436	.....	3
Dolph Coal Co.																
Dolph,	Lackawanna,	4	80	6	620	700	2	.....	.....	19	1,026	4	670	100	1	2
Forest Mining Co.																
Forest mine,	Lackawanna,	5	180	7	725	905	3	.....	2	13	530	3	1,844	1,230	1	2
Riverside Coal Co.																
Riverside,	Lackawanna,	9	180	2	160	340	1	.....	.....	8	741	1	550	525	.....	.....
Kingsley Coal Co.																
Hawley washery,	Wayne,	4	222	.....	.....	222	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Clark Tunnel Co.																
Clark tunnel,	Lackawanna,	1	50	.....	.....	50	.....	.....	.....	1	40	.....	.....	.....	.....	.....

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers. Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.	Locomotives—steam.	Locomotives—air.	Locomotives—electric.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute.	Number electric dynamos.	Number air compressors.
Franklin Coal Co.																
Franklin,	Lackawanna,	.....	.....	2	190	190	.....	.....	.....	4	160	2	400	.....	.....	.....
Ontario Coal Co.																
Winton washery,	Lackawanna,	2	270	.....	.....	270	.....	.....	.....	2	175	.....	.....	.....	.....	.....
Totals and averages,		357	9,355	124	13,965	23,320	42	7	10	411	27,149	85	59,353	40,740	15	12

Recapitulation.

Delaware and Hudson Company,		152	2,830	15	2,490	5,320	6	7	.....	142	8,125	25	26,210	17,712	.....	2
Hillside Coal and Iron Company,		34	1,020	30	2,485	3,505	4	.....	4	35	2,215	21	11,031	8,049	7	.....
Temple Iron Company,		58	2,048	10	1,385	3,433	11	.....	.....	39	3,415	7	6,050	4,436	.....	3
Delaware, Lackawanna and Western Railroad Company,		12	540	10	1,350	1,890	3	.....	.....	20	1,860	1	800	800	.....	.....
Johnson Coal Co.,		.....	.....	11	1,375	1,375	1	.....	2	10	1,850	4	3,854	1,973	1	.....
Pennsylvania Coal Company,		.....	.....	7	1,000	1,000	3	.....	.....	32	1,404	5	2,790	2,515	.....	.....
New York and Scranton Coal Company,		31	675	4	400	1,075	4	.....	2	29	2,170	4	1,150	780	2	.....
Forest Mining Company,		5	180	7	725	905	3	.....	2	13	530	3	1,844	1,280	1	2
Pancoast Coal Company,		15	285	3	315	600	.....	.....	.....	12	1,226	2	754	500	2	.....
Miscellaneous coal companies,		50	1,777	27	2,440	4,217	7	.....	.....	70	4,354	13	4,870	2,745	2	5
Totals and averages,		357	9,355	124	13,965	23,320	42	7	10	411	27,149	85	59,353	40,740	15	12

TABLE III—Showing the number of each class of employes at each colliery in the First Anthracite District during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total, inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers, and clerks.	All other employes.	Total outside.	
Leggetts Creek,	1	5	132	132	52	12	75	409	1	7	20	31	1	68	128	537
Marvine,	2	5	155	155	86	22	67	492	1	8	12	58	.....	60	139	631
Eddy Creek,	1	4	166	185	80	8	49	493	1	7	6	69	2	47	132	625
Olyphant,	1	4	147	158	60	14	25	409	1	8	9	60	3	71	152	561
Grassy Island washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	8	.....	18	28	28
Grassy Island,	1	3	142	142	49	8	38	383	1	4	13	.....	.....	25	43	426
White Oak,	1	.....	156	108	59	2	15	341	1	4	3	.....	.....	46	54	395
Jermyn No. 1,	1	1	189	180	49	18	34	472	1	5	5	34	.....	28	73	545
No. 1 shaft,	1	2	250	21	54	8	39	375	.....	5	6	6	1	41	59	434
Powderly,	1	.....	169	10	41	4	29	254	1	2	5	6	.....	27	41	295
Racket Brook breaker,	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	42	1	25	72	72
Racket Brook washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	1	1	7	.....	4	14	14
Coal Brook,	1	4	227	159	72	15	58	536	1	5	10	110	1	95	222	758
Clinton,	1	1	122	131	49	15	34	353	1	4	9	42	.....	48	104	457
Totals and averages,	12	29	1,855	1,381	651	126	463	4,517	13	62	101	473	9	603	1,261	5,778
No. 1 colliery,	2	3	147	136	40	8	15	351	1	3	17	65	1	41	128	479
Gipsy Grove,	1	1	112	73	29	10	13	239	1	2	13	45	1	33	95	334
Gipsy Grove washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	6	4	.....	20	31	31
Totals and averages,*	3	4	259	209	69	18	28	590	3	5	36	114	2	94	254	844

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total, inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers, and clerks.	All other employes.	Total outside.	
Forest City	2	.....	241	241	84	13	63	644	1	6	13	60	3	61	144	788
Clifford	1	.....	128	90	43	6	29	297	1	5	8	61	2	68	145	442
Erie	2	.....	97	89	48	8	33	277	1	6	12	69	3	35	126	403
Keystone	1	.....	33	33	17	.....	4	88	1	2	2	19	1	14	39	127
Glenwood	2	.....	57	82	42	11	27	261	1	3	10	50	1	37	102	363
Totals and averages	8	.....	596	535	234	38	156	1,567	5	22	45	259	10	215	556	2,123
Storrs	3	7	357	357	109	21	135	989	1	7	21	88	2	75	194	1,183
Blue Ridge	2	.....	126	78	35	5	16	272	1	7	7	110	1	61	187	459
Ontario	2	.....	185	95	38	5	22	347	1	9	18	130	2	81	239	586
Totals and averages	4	.....	321	173	73	10	38	619	2	16	25	240	3	142	426	1,045
Pancoast	3	5	140	140	72	23	83	466	1	7	18	100	4	50	180	646
Richmond No. 3	1	1	20	19	4	1	6	52	1	2	8	25	3	10	49	101
Richmond No. 4	1	.....	49	51	27	3	23	154	1	5	6	28	4	25	69	223
Totals and averages	2	1	69	70	31	4	29	206	2	7	14	53	7	35	118	324

Murrays',	1	.....	25	25	14	3	5	73	1	2	2	17	.....	15	37	110
Moosic Mountain,	1	.....	77	65	35	5	14	1 7	1	5	8	.....	5	19	38	235
Mt. Jessup,	2	1	45	45	12	5	22	132	1	5	14	82	8	5	115	247
Totals and averages,	3	1	122	110	47	10	36	329	2	10	22	82	13	24	153	482
Johnson's,	2	5	235	250	95	30	70	707	1	11	20	103	3	80	218	925
Lackawanna,	2	1	175	170	71	10	29	458	1	6	20	63	4	45	139	597
Sterrick Creek,	2	.....	130	150	66	7	38	387	1	10	15	68	4	59	157	544
Edgerton,	2	.....	101	82	22	2	15	224	1	6	8	54	4	51	124	348
Simpson,	2	.....	130	118	61	11	19	341	1	9	16	45	4	61	136	477
Totals and averages,	8	1	536	520	214	30	101	1,410	4	31	59	230	16	216	556	1,966
Dolph,	2	.....	115	100	45	2	70	334	1	4	21	115	4	65	210	544
Forest mine,	2	.....	226	177	49	18	25	497	1	4	10	83	3	63	164	661
Riverside,	1	.....	89	76	23	3	15	207	1	5	8	38	2	25	79	286
Hawley washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	3	1	1	3	9	9
Franklin,	1	1	20	30	9	3	39	103	1	2	1	12	1	30	47	150
Winton washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	2	2	2	2	21	30	30
Clark tunnel,	1	.....	7	7	4	.....	2	21	1	1	2	5	2	5	16	37
Totals,	56	54	4,992	4,160	1,739	339	1,295	12,635	42	198	408	2,015	84	1,761	4,508	17,143

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Leggetts Creek	20.75	17.25	14.50	14.75	13	15.75	16.75	.....	18.50	18.75	21	21.75	192.75
Marvine	20.75	18.50	13.25	13.50	13	16.25	17.75	17.50	15	22.75	22.25	22.25	212.75
Eddy Creek	12.25	18	13.50	15	16.75	17	15.50	15.75	17.75	20.50	21.25	20.25	203.75
Olyphant	11.50	18.25	14	14.50	15.25	16.75	14	16.25	17.75	22.25	22.25	19.50	201.75
Grassy Island washery	17.50	6.25	9	19.25	24	23.50	20	17	22	18.75	18.50	20.75	216.50
Grassy Island	6.25	16.75	14	14.50	15.25	16.75	14	16.25	17.25	22.25	21.75	19.50	194.50
White Oak	18.75	17.75	13.75	12.25	11.25	11.50	5	7	13.75	12.25	19	16.75	160
Jermyn No. 1	18.25	17.50	13.75	12.25	11	12	14.25	20.25	21	20.25	22.25	21.50	204.25
No. 1 shaft	11.50	12.75	14.75	12.25	14.50	10.56	16	21.25	17.50	19	19.75	19.50	190.25
Powderly	11	13.50	15	12.25	14.50	10	17	25.25	19.75	19	21.25	22.25	201.25
Racket Brook breaker	13	12.25	16.75	13	15	11.50	16.50	22	20.25	21	21.50	21.25	204
Racket Brook washery	.....	.....	.....	.....	.....	.....	3	19.25	5.50	18.75	14.75	13.50	74.75
Coal Brook	19	15.75	12.50	12	12.75	13.50	14.25	11	14.75	19.50	20.50	17.75	183.25
Clinton	19	15.25	13.75	13	13	14.50	16	16	20	22	20.25	21	203.75
Totals and averages	14.25	14.34	12.75	12.75	13.52	13.53	14.28	16.05	17.20	19.78	20.44	19.89	188.8
No. 1 colliery	13.50	15.75	13.25	11.25	11.25	18.25	18.25	15.50	12.50	17.75	18.50	18.75	184.50
Gipsy Grove	12.75	14.75	12.50	11.25	11.25	18.75	17.50	15	14.75	17.75	18	18.25	182.50
Gipsy Grove washery.*	23.70	19	22.6	22.1	21.9	13.50	.....	.....	.....	.....	.....	.....	122.80
Totals and averages	19.98	16.50	16.17	14.87	18.13	16.83	17.87	15.25	13.63	17.75	18.25	18.50	183.5

*Average of the two collieries—washery abandoned in June.

Forest City,	14.50	16.25	12	7.50	7.50	21.25	19	18	13	19.50	17.50	16	182
Clifford,	13.25	14.75	12	7.50	7.50	19.25	19	17	13.25	19.25	17.25	15.75	175.75
Erie,	12.50	12	12	7.50	7.50	17	17	18	17.50	17.50	18.25	15.25	172
Keystone,	3	15.50	18.50	15.75	13.25	15.25	12	12.75	17	16.75	14.50	16	175.25
Glenwood,	9.75	10.25	11.50	7	7.50	13	12	12	12.25	13	13	10.75	132
Totals and averages,	10.6	13.75	13.2	9.05	8.65	17.15	15.8	15.55	14.6	17.2	17.1	14.75	167.4
Sturrs,	18.2	13.1	12.5	14.1	18.5	19.4	18.9	19.8	21.2	21.5	22.5	19.8	219.5
Blue Ridge,	18.8	17.5	19.3	11.5	13.6	6.1							
Ontario,	16.2	11	20.5	17.2	16.9	22.3	23.4	21.8	24.2	24.4	22.4	21.6	247.9
Totals and averages,	17.5	15.75	19.9	15.85	15.25	14.2	23.4	24.8	24.2	24.4	22.4	21.6	168.85
Pancoast,	18.5	18.25	12.25	15	18	20.5	20.5	20	19.5	20.75	20.5	17.75	222.5
Richmond No. 2,	9.2	9.1											18.3
Richmond No. 1,	16	12.9	6.2	3.9	7.9	8.6	8.3	8.6	13.9	14.8	15.5	16.5	133.1
Totals and averages,	12.6	11	6.2	3.9	7.9	8.6	8.3	8.6	13.9	14.8	15.5	16.5	75.7
Murrays',	17.75	18.25	18.75	18.75	14	18.5	18.75	20.75	20.5	22.5	21.25	18.75	228.5
Moosic Mountain,	7.8	14.1	14.2	13.2	15.3	16.1	18.6	19.1	17.1	16.2	17	13	181.7
Mt. Jessup,	11	15.5	14.2	13.9	15.4	17.6	19.7	21.1	17.5	16.7	18.4	14.5	185.5
Totals and averages,	9.4	14.8	14.2	13.55	15.35	16.85	19.15	20.1	17.3	16.45	17.7	13.75	188.6
Johnson's,	18	14	21.8	19	18.9	20.3	20.3	22.5	20.5	20.5	19.7	18	223.5
Lackawanna,	20.5	16.2	14	8.4	12.8	16.3	17.1	16.9	20.3	22.6	20	16.6	201.8
Sterrick Creek,	12.45	11.5	14.75	10.6	8.55	8.95	11.15	17.5	21	19.5	20.1	19.5	175.1
Elverton,	10.2	7.5	9.3	7.9	8	14.9	11.4	11.8	12.8	13.3	13.5	12.8	134.4
Simpson,	20.3	16	14.3	7	8.5	17.1	17	19.4	19.7	21.9	21.8	20.3	203.3
Totals and averages,	17.86	12.71	13.08	8.475	9.46	14.34	14.16	16.4	18.45	19.32	18.85	17.3	178.4
Dolph,	12	7.4	9.8	7.2	7.1	12.3	14.5	13.4	15	13.7	15.9	15.3	143.9
Forest mine,	19.6	15.7	19.7	16.4	15.9	14	13.5	21.1	18	20.2	19	20.7	213.8

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
[illegible]	.....	.....	.....	.....	3	11	13.1	16.1	18	19.4	19	19.1	118.7
Hawley washery,	3	10	10	7	12	2	.....	10	11	15	20	18	118
Franklin,	11.45	10	14.5	14.85	18.75	16.85	7.3	11.85	12.45	10.3	3.45	.....	134.75
Wenig washery,	4	.....	4	8	5	12	18	9	16	14	11	21	122
[illegible] tunnel,	15.8	15.8	21.8	17.7	21.2	20.1	10.6	15.4	10.4	9.9	14.1	15.1	187.9

TABLE IV—List of fatal accidents that occurred in and about the mines of the First Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows	Number of orphans	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 6,	Thomas Burke,	Miner,	41	M.	1	2	Gipsy Grove,	Lackawanna,	On his way back from face noticed a cap piece loose on a prop; took an axe to tighten it, when a large flake of rock fell on him.
10,	Thomas Manley,	Miner,	34	M.	1	3	Dolph,	Lackawanna,	While helping laborer to load a car, fall of rock took place, first struck the car, broke in two and one of the pieces struck him.
28,	Peter Stolarchick,	Laborer,	40	M.	1	....	Lackawanna,	Lackawanna,	While loading a car at the face of a breast, near a "fault," a fall of rock occurred and fatally injured him.
Feb. 22,	Andrew Costick,	Miner,	44	M.	1	3	Hendricks (Eyebrow),	Lackawanna,	While cutting out a prop from under some top coal, the coal fell and instantly killed him.
24,	William Stevenson,	Miner,	45	S.	....	....	Eddy Creek,	Lackawanna,	While barring at one piece of rock another above it gave way and killed him.
25,	John Lashkowitch,	Miner,	56	S.	....	....	Mt. Jessup,	Lackawanna,	While cleaning a place for a prop under a bad piece of roof which he failed to pull down, it fell and fatally injured him. He died on the 5th of March.
Mar. 2,	Joe Fulton,	Laborer,	29	S.	....	....	Simpson,	Lackawanna,	A loaded car he was pushing out from face struck a prop and knocked it out, letting fall on him a mass of "14-inch" coal, which killed him instantly.
13,	Charles Smith,	Miner,	36	S.	....	....	Simpson,	Lackawanna,	On reaching the face after firing a shot, a large mass of rock fell and killed him.
14,	Dominick Myer,	Miner,	30	S.	....	....	Forest mine,	Lackawanna,	Killed by a fall of coal that occurred while he was mining out loose coal after a shot.
24,	Frank Drilnock,	Miner	35	M	1	2	Ontario,	Lackawanna,	While helping a fellow miner to cut coal, a fall of rock fatally injured him. He died on the 28th.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Mar. 30,	Mike Novak,	Miner,	41	M.	1	....	Lackawanna,	Lackawanna,	Was working at the face of his chamber when a large mass of rock fell on him.
April 21,	Thomas Allen,	Miner,	35	M.	1	....	Coal Brook,	Lackawanna,	While working out some loose coal after a shot, a large mass of rock fell and killed him.
27,	Martin Bolavage,	Laborer,	41	M.	1	4	Simpson,	Lackawanna,	While in his brother's place helping him with some top coal, a "bell" rock fell on him and killed him.
May 2,	Thomas Morgan,	Miner,	42	M.	1	5	Storrs No. 1,	Lackawanna,	While working at face of a gangway, under a piece of dividing rock which had been examined an hour before, it fell and killed him.
4,	George John,	Miner,	22	M.	1	...	Ontario,	Lackawanna,	He had just gotten back to working place after firing a shot that blew out a prop. He did not examine the roof on his return, else he would have discovered the slab that a little later killed him.
9,	Joseph Ulshifski,	Miner,	37	M.	1	2	Forest mine,	Lackawanna,	He fired a shot under what is known as six-inch, and just as he got back to face it fell on him.
10,	Cartridge Hagerty,	State picker,	65	M.	1	3	Gipsy Grove,	Lackawanna,	He attempted to cross a track on which two cars were coming toward him to bump the third, and was caught and crushed between the bumpers.
18,	Steele Urban	Miner,	23	M.	1	2	Pancoast,	Lackawanna,	While trying to force a charge of powder to the back of a hole with a drill, it exploded and caused his death.
24,	Joseph Jaw,						Jermyn No. 1,	Lackawanna,	He came down on the cage from head of breaker to surface landing and stepped off on the landing before the cage stopped, and fell backward on to it, where it was stopped ten feet below the landing. He died on the 27th.
		Weighmaster,	56	M.	1	4			

June	2,	Wicent Menkstyn,	Laborer,	30	S.			Johns [illegible]			After ten men had gotten on the cage to go up the shaft, he came to the foot, opened the gate while the cage was still there, and attempted to get on, but as he put one foot forward the cage started, throwing him backward and down the shaft.
	8,	John Pritchard,	Miner,	46	M.	1	5	Johnson's No. 2,	Lackawanna,		While on his knees at face of chamber examining results of a shot, a slab of rock fell on him and caused his death.
	12,	Benjamin Lloyd,	Miner,	21	S.			Grassy Island,	Lackawanna,		A piece of top coal fell on him while he was mining out some loose coal from under it and fatally injured him.
	19,	David R. Davis,	Miner,	60	M.	1		Leggett's Creek,	Lackawanna,		After firing a shot in bottom coal and sounding the top coal, he began to mine out the bottom, and in a short time the top coal fell on him.
	27,	John William,	Pumpman,	17	S.			Mt. Jessup,	Lackawanna,		He rode up a slope on a trip of cars, and in turning himself near head to get off was caught between car and roof and fatally squeezed.
July	6,	Joseph Vaughan,	Miner,	50	M.	1		Grassy Island,	Lackawanna,		These two men, shortly after commencing work in the morning, were killed by a fall of rock. The roof had been examined by the younger miner, who thought it was safe, but he was mistaken, as it fell and killed his father and his laborer.
	6,	Max Quapish,	Laborer,	27	S.			Grassy Island,	Lackawanna,		
	6,	Pasko Koda,	Miner,	48	M.	1	2	Edgerton,	Lackawanna,		He stopped drilling a hole for a moment and stepped to the edge of some top coal, and almost at the same instant was killed by a fall of coal.
	7,	James Owens,	Miner,	59	M.	1	3	Jermyn No. 1,	Lackawanna,		While cleaning a place to rest one of three props that had been displaced, a fall of coal struck him and so seriously injured him that he died on the following day.
	8,	Martin Hennigan,	Miner,	35	M.	1	1	Murray's,	Lackawanna,		He attempted to fire two holes at one time, one of which went off and he took it for granted that the both had gone, but found, on reaching the face, there was one unexploded. He then went back about forty feet for a squib, and when within a few feet of the face the shot went off and killed him instantly.
	12,	Victor Valentonovitch,	Laborer,	24	S.			Clifford,	Susquehanna,		While on the cage going up the shaft, he became dizzy when about forty or fifty feet from the bottom, fell forward, caught on side of shaft and fell to bottom.

TABLE IV.—Continued.

Date of Accident.	Name of Person.	Occupation.	Age.	Married or Single.	Number of Years Employed in this Mine.	Number of Years Employed in this Occupation.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
July 17.	Martin Comeski	Laborer.	30	S	....	..	Leggett's Creek	Lackawanna,	While "gobbing" roof rock on side of chamber a fall of rock occurred which killed him.
" 20.	Walter Greenslade,	Footman.	19	S	....	..	Jermyn No. 1.	Lackawanna,	While putting a car on track at foot of shaft, the main link on slope chain broke just as a trip of mine cars was being lowered from head of slope to shaft branch, bumping cars on branch, knocking three off, one of which caught him and crushed him to death against the rib.
" 24.	Richard Clifford	Laborer.	21	S	....	....	Gipsy Grove.	Lackawanna,	These two men, after loading their car in the airway, came up a short distance on the slope and sat down to eat a lunch. A trip of four cars was being hoisted and when about 400 feet from them the main link of chain broke and the trip ran back. They heard it coming and instead of running to a cross-cut almost opposite them, and only thirteen feet away, started down the slope towards a cross-cut 800 feet away, but were overtaken and killed when about thirty feet from where they had been sitting.
" 27.	Michael Lavan	Laborer.	23	S	....	....	Gipsy Grove.	Lackawanna,	
" 29.	Charles Mills,	Miner.	29	M	1	...	Pancoast.	Lackawanna,	While removing props from under some "top coal," which he intended to take down, it and the rock to a thickness of fifteen inches, fell on him and instantly killed him.
" 29.	William Stahaltz	Miner.	27	S	....	....	River Slope	Lackawanna,	While loading a car at end of road, a small slab of shelly rock fell and fatally injured him. He died on following day.

Aug.	4,	Andrew Carter,	Miner,	43	M.	1	5	Richmond No. 4,	Lackawanna,	He was firing a shot in a pillar and ran to what he thought was a place of safety, when the shot went off; it blew through the pillar and fatally injured him.
	8,	Martin Casey,	Driver,	19	S.			No. 1 tunnel,	Lackawanna,	He was driving a mule, hitched to two loaded cars, out a gangway, and when at a narrow place on the road was caught and squeezed to death between the rib and car.
	8,	Amzi D. VanCampen,	Stable boss,	45	M.	1	7	Pancoast,	Lackawanna,	While taking care of a mule, he was kicked on the groin and so seriously injured that he died in two days after.
	24,	Al. Tompkins,	Miner,	38	M.	1	5	Erie,	Lackawanna,	While barring down one piece of rock another above it fell and killed him.
Sept.	1,	Frank Mekoski,	Laborer,	40	M.	1	1	Pancoast,	Lackawanna,	He and his miner had retired to a cross-cut to await the explosion of a blast; hearing a shot go off, thought it was theirs and went up to the spot in the next chamber, where they expected it to break through, and while there their own shot went off and killed the laborer and seriously injured the miners.
	13,	Joseph Stanishlaw,	Miner,	34	M.	1	5	Mt. Jessup,	Lackawanna,	On reaching the face after firing a shot, a fall of rock occurred and fatally injured him. He died in a very short time afterward.
	16,	John A. Taylor,	Door boy,	14	S.			Pancoast,	Lackawanna,	While trying to jump on a car that was being hoisted a short way up the slope he slipped and fell under and was fatally injured.
	19,	Michael Lavelle,	Laborer,	19	S.			Marvine,	Lackawanna,	He took out a prop from under a bad piece of roof and in a few minutes afterward, while he was loading a car, a fall of rock came on him.
	20,	Patrick Hastings,	Miner,	26	S.			Olyphant No. 2,	Lackawanna,	He went up to the face of a gangway, about a hundred feet from his place and ignited a small body of gas which had accumulated there during the time that a breaker airway door was being repaired. He died the second day after.
	21,	John Zernaski,	Miner,	40	M.	1	5	Lackawanna,	Lackawanna,	He was mining out some loose coal at the face of his place when a "saddle" rock fell on him.
	23,	Alex. Spleuok,	Culm man,	31	M.	1		Johnson's No. 2,	Lackawanna,	Struck at the foot of a culm plane by two cars that ran away, caused by the breaking of a rope.
	27,	Mat Matchuck,	Driver,	24	S.			Highland Park,	Lackawanna,	In changing his position on the bumper of the first car of a trip of four, he fell off and under the cars.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Sept. 28,	John Maynes,	Miner,	27	M.	1	1	Erie,	Lackawanna,	Just as he got back to the face after firing a shot, and while picking up a drill to mine out some loose coal, a large "saddle" rock fell and killed him.
Oct. 6,	Mike Colander,	Miner,	50	S.	....	....	Hendricks, Edgerton col.	Lackawanna,	These two were robbing pillars and, after being forbidden to fire again in the pillar, they disobeyed the order, fired in the pillars and brought the top coal down on themselves with fatal results.
6,	John Papish,	Miner,	36	M.	1	....	Hendricks, Edgerton col.	Lackawanna,	
6,	Michael Hoban,	Driver,	15	S.	....	....	Dolph,	Lackawanna,	This boy in play took up a pick and began picking on the rib in a chamber which was in a "fault," when a small piece of coal, triangular in shape, fell from the rib near the roof, struck and fatally injured him.
7,	Stephen Andrasko,	Miner,	24	M.	1	....	No. 1 shaft,	Lackawanna,	While shoveling coal back to road from rib, a projecting piece fell and fatally injured him.
18,	Roy Snyder,	Laborer,	21	S.	....	....	Jermyn No. 1,	Lackawanna,	While loading a car at face of a breast, a slab of rock fell and caused his death.
24,	James McHale,	Locomot've fireman,	18	S.	....	....	Grassy Island,	Lackawanna,	While stooping to raise a coupling on first car of rear section of an uncoupled train, he fell and the cars ran over him.
30,	Patrick Walsh,	Miner,	40	S.	....	....	Coal Brook,	Lackawanna,	He was shoveling coal from under a slab of rock which he and his brother had twice tried to pull down, when it fell and caused his death
Nov. 1,	William Bailiff,	Miner,	26	M.	1	3	Clinton,	Lackawanna,	He was taking down a three-inch slab in front of him, when an inch and a half slab, four feet square fell behind him, striking him between the shoulders, severing his spinal column

	2.	Frank Drawbish, ...	Laborer, ...	40	M.	1	3	Storrs No. 1, ...	Lackawanna, ...	He was sent down to a gangway to give warning of his miner's intention to fire a shot in top coal. After the shot, and while the miner was barring at the top coal; he started for a cross cut on opposite side to miner, and was caught by falling mass before he reached it.
	8.	James Kerrigan, ...	Miner, ...	45	S.	....	....	Sturges, ...	Lackawanna, ...	While mining out the bottom bench after a shot, the top coal fell on him.
	9.	Anton Supanzis, ...	Miner, ...	42	M.	1	2	No. 2 shaft, ...	Lackawanna, ...	He was barring out loose coal from face after shot, when about two tons of coal unexpectedly gave way and killed him.
	10.	John Smith, ...	Driver, ...	16	S.	....	....	Johnson's No. 2, ...	Lackawanna, ...	The team which he was driving stopped, as it did so he stepped forward at the same time using his whip, and received the kick that killed him.
	11.	Stanley Govaliski, ...	Laborer, ...	36	M.	1	3	Eddy Creek, ...	Lackawanna, ...	He and three others had just got back to the face of a counter gangway after a shot, when a four-inch slab of rock fell, killed him and injured two others.
	14.	Frank Davis, ...	Driver, ...	15	S.	....	....	Grassy Island, ...	Lackawanna, ...	In stopping to unhitch his mule from a trip of cars, he fell and was squeezed between the bumpers.
	16.	Andrew Roebulla, ...	Laborer, ...	28	M.	1	1	No. 1shaft, ...	Lackawanna, ...	While shoveling coal from rib to road, a "bell" shaped rock fell, discharged two props, then slid toward him and caught him under its edge.
	21.	George Marr, ...	Driver, ...	16	S.	....	....	Eddy Creek, ...	Lackawanna, ...	In trying to jump on front bumper, he slipped and fell under the cars.
	22.	George Plowright, ...	Runner, ...	19	S.	....	....	Storrs No. 2, ...	Lackawanna, ...	While trying to get on the bumper of the first car of a trip, he fell in front of the cars and was run over.
	24.	Frank Neicht, ...	Laborer, ...	38	M.	1	....	Dolph, ...	Lackawanna, ...	While loading a car near a pillar a saddle of rock fell and killed him.
Dec.	11.	John Sise, ...	Miner, ...	47	M.	1	...	Blue Ridge, ...	Lackawanna, ...	While shoveling coal from cross-cut near face, a six-inch slab of rock fell and killed him.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the First Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 7.	Joseph Onslower,	Miner,	44	M.	Clifford,	Susquehanna,	Head cut and skull depressed by a piece of coal striking him as he was passing under a trestle; the coal was shoveled off with some snow.
9,	Richard Evans,	Mine foreman,	36	M.	Storrs No. 2,	Lackawanna,	Burned on face and hands by an explosion of gas, which occurred in a cavity in the roof at face of an old breast, where he had gone to look for leakage in the air current; not thinking there was any gas there, he carried a naked light.
12.	Pat. Shanley,	Driver,	20	S.	Dolph,	Lackawanna,	Was sitting on the bumper of a car, sliding his foot on the rail; his foot was caught in rail and the car ran over it and fractured it.
12.	Samuel Lewis,	Mine foreman,	52	M	Storrs N.o 2,	Lackawanna,	These two men went into an old chamber to locate a wall that was to be taken down so as to let a current of air pass through to an upper gangway. Each had a safety lamp, as it was known that there was a small body of gas in a hole in the roof. Another man was left on the outside of the wall to rap to them; he had a naked light, and it is likely that he set off the gas as it escaped through a seam in the roof or through cracks in the wall made by an explosion which occurred in the same place on the 9th preceding.
12.	George Gleason,	Fire boss,	44	M.	Storrs No. 2,	Lackawanna,	
17.	Andrew Gryga,	Miner,	30	M.	Lackawanna,	Lackawanna,	A slab of rock four feet square, three inches thick, which he neglected to take down after discovering it, fell and injured his back.
19.	Leo McDonald,	Driver,	18	S.	Lackawanna,	Lackawanna,	Was driving at the foot of a slope, and while waiting for "empties" came up to head, and as the first trip was going down, the rope got fast on side of pulley; he loosened it and it swung and struck him on the ankle, fracturing it.

	21,	Thomas J. Gildea, ...	Miner, ...	45	M.	White Oak, ...	Lackawanna, ...	Was replacing a prop that had recently been discharged by a shot, when a piece of rock fell on him and broke his ribs.
	23,	Edward McGuire, ...	Miner, ...	28	M.	Johnson's No. 1, ...	Lackawanna, ...	Had twice tried to light a squib with "touch paper" but failed; he then held his lamp to the end of the "blasting barrel" to examine it, and the shot went off; but by throwing himself backward he escaped with a few cuts on arms.
Feb.	1,	Joseph Haggerty, ...	Slate picker, ...	14	S.	Forest City, ...	Susquehanna, ...	On his way home he jumped on a culm car and when near the breaker jumped off and fell under and the car struck him and broke his arm.
	2,	Thomas Pickard, ...	Miner, ...	27	S.	White Oak, ...	Lackawanna, ...	A box of caps, from some unknown cause, exploded in his hands and blew off several of his fingers, also injured his face and breast.
	6,	John Muka, ...	Laborer, ...	25	S.	Forest City, ...	Susquehanna, ...	Was shoveling back some coal from rib, when a piece of rock fell on his back; the roof had been examined by his brother, for whom he was working, but he failed to detect this slab.
	8,	Fritz Marchuck, ...	Miner, ...	40	M.	Simpson, ...	Lackawanna, ...	He was mining out a piece of bottom coal, when the top coal fell on him and injured his back.
	8,	Henry Briggs, ...	Engineer, ...	25	M.	Mt. Jessup, ...	Lackawanna, ...	While pushing a car out it left the track and the bumpers of the engine ran under it; his leg was badly cut. It was contrary to a standing order to push a car out.
	11,	Thomas Longmore, ...	Miner, ...	54	M.	Leggett's Creek, ...	Lackawanna, ...	By tipping a mine lamp which he had placed on a board, it set fire to some loose powder, which, in turn, set fire to half a keg of powder, and he was slightly burned.
	11,	Joseph L. Davis, ...	Timberman, ...	44	M.	Grassy Island, ...	Lackawanna, ...	While barring down a loose piece of rock on gangway it fell and tipped over on his foot, badly injuring it.
	13,	John McTuski, ...	Laborer, ...	33	M	Olyphant No. 2, ...	Lackawanna, ...	Was running behind a trip of cars, when the rear car jumped the track and before he could stop himself he ran against the car, fracturing his knee cap.
	16,	John McClosky, ...	Runner, ...	19	S.	Sterrick Creek, ...	Lackawanna, ...	He took hold of the rear mule of a team of two, struck the lead mule with a whip and the same moment received a kick that fractured his skull.
	17,	Lawrence Resetco, ...	Laborer, ...	38	M.	Johnson's No. 1, ...	Lackawanna, ...	While preparing coal to load a car at face of breast, a "bell" rock fell on him, dislocating his spine and crushing his foot; the roof had been "sounded" a few minutes before and was though perfectly safe.
	18,	Michael Kane, ...	Miner, ...	51	M	Forest City, ...	Susquehanna, ...	Fired a shot that blew out two props and let down some bad roof; later, while restanding a prop, a fall occurred, which fractured small bone of ankle.
	18,	John Heffron, ...	Miner, ...	38	S.	Grassy Island, ...	Lackawanna, ...	While barring down coal after a shot, a piece of top coal fell on him, cutting his head and bruising his back.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Feb. 20,	John Meaka,	Miner,	32	M.	Eddy Creek,	Lackawanna,	Was "working" out a shot, when a piece of bony fell on him and broke his back. When he began to mine out the coal the slab was but partly exposed, but as the coal was taken away, it became weaker, and finally fell but not before Meaka had been warned of its danger by a fellow miner, to whom he paid no attention.
22,	Joseph Zegman,	Laborer,	30	S.	Marvine,	Lackawanna,	Face and hands burned by an explosion of a small body of gas in a cavity in the roof, near the face of a chamber; he neglected to put up a canvas which was used to keep the place clear, and in passing out put his lamp to near the roof, with above result.
28,	Angelo Pierne,	Miner,	24	S.	Sterrick Creek,	Lackawanna,	Had put his lamp on the "gob" while making up a cartridge for a "wet" hole, and in moving around knocked it off and into some loose powder, which exploded and burned his hands and face.
Mar 13,	John Lewis,	Miner,	45	M	Coal Brook,	Lackawanna,	Was barring out some loose coal, when a piece of it fell and broke his leg.
15	Samuel Morgan,	Driver,	17	S.	Leggett's Creek,	Lackawanna,	Was walking behind a mule, when the brute kicked him on the stomach
16	Henry Fielkemp,	Miner,	50	M.	Pancoast,	Lackawanna,	Was barring down some loose pieces of rock, when an unobserved piece fell on him and bore him down onto some loose coal, and cut his face.
27	John Travis,	Footman,	20	S.	Mossic Mountain,	Lackawanna,	Was placing a car on a cage, when another car ran against him and fractured his arm.
April 11,	John Gownley,	Runner,	18	S.	Forest mine,	Lackawanna,	Was riding on first car of a trip of twelve going down a light grade, when the cars jumped the track, throwing him under and fracturing his leg.
14,	John Norton,	Miner,	32	S.	Murray,	Lackawanna,	While barring down some top coal a slab of rock, the edge of which was resting on it, fell unexpectedly on him, cutting and bruising his body.

	15,	Mongo Pryde, ...	Driver, ...	16	S.	Storrs No. 2, ...	Lackawanna, ...	After unhitching his mule he slipped and fell in front of a trip of four cars and a leg and arm were fractured.
	17,	Joseph Roublatz, ...	Outside laborer, ..	52	M.	Clifford, ...	Susquehanna, ...	Leg fractured while coupling empty cars.
	17,	James Murphy, ...	Runner, ...	24	S.	Marvine, ...	Lackawanna, ...	While riding on the bumper of a car drawn by a mule, the stretcher caught in rail, causing his leg to get between car and rail and fracturing it.
	18,	Joseph Trueskoski, ...	Miner, ...	45	M.	Pancoast, ...	Lackawanna, ...	Shot by going back to a hole which he thought had missed; arm fractured.
	24,	Francis Lafontain, ...	Outside laborer, ..	50	M.	Gipsy Grove, ...	Lackawanna, ...	Clothes caught by failing to get out of the way of a car coming off the tipple and he was slightly injured.
	27,	William York, ...	Driver, ...	17	S.	Sturges, ...	Lackawanna, ...	Caught between mule and door and his arm was fractured.
May	1,	Adam Mooney, ...	Miner, ...	34	S.	Moosic Mountain, ...	Lackawanna, ...	Stepped on a prop, which rolled, causing him to fall against a car and his leg was broken.
	2,	Frank Rimmick, ...	Laborer, ...	27	M.	Storrs No. 1, ...	Lackawanna, ...	Badly bruised by a fall of rock at face of gangway.
	3,	Job Hamilton, ...	Miner, ...	58	M	Coal Brook, ...	Lackawanna, ...	While helping another miner to bar down some rock a piece of it fell on him and broke his leg.
	12,	Joseph Higgins, ...	Driver, ...	19	S.	Storrs No. 1, ...	Lackawanna, ...	Leg fractured; while sitting on the bumper of one car going out a gangway he forgot there was a car ahead of him, and was crushed between them.
	16,	John Munski, ...	Laborer, ...	43	M.	Marvine, ...	Lackawanna, ...	While loading a car a piece of top coal, which was known to be loose fell and severely cut and bruised him.
	17,	John Wright, ...	Miner, ...	45	M.	Grassy Island, ...	Lackawanna, ...	In trying to get out of the way of a piece of coal at which he was barring he fell and the lump fell on him.
	23,	Martin Davers, ...	Runner, ...	21	S.	Marvine, ...	Lackawanna, ...	While spragging a car his hand was caught, and three fingers cut off.
	24,	Angelo Molino, ...	Laborer, ...	38	M	No. 1 shaft, ...	Lackawanna, ...	Severely bruised by a fall of rock which occurred while he was loading a car at the face.
	25,	Thomas Reap, ...	Miner, ...	55	M	Marvine, ...	Lackawanna, ...	After lighting a squib to fire a shot, retired to a place of safety, waited a reasonable time and thought it had missed; went back to within twenty feet, when it went off and the flying coal severely injured him.
	29,	Mike Coshofski, ...	Miner, ...	25	S.	Blue Ridge, ...	Lackawanna, ...	Burned on face and hands by powder which he was scraping out of a hole into his laborer's hat after breaking the cartridge; a spark from his lamp set the powder off.
	31,	William Wells, ...	Miner, ...	53	M	Johnson's No. 1, ...	Lackawanna, ...	Severely injured on back and sides by flying coal from a shot that went off just as he turned around to go away after lighting the squib.
	31,	William Lawwack, ...	Miner, ...	28	M.	Johnson's No. 2, ...	Lackawanna, ...	In loosening a drag in front of a car, the car started, jumped the track and caught him under it, cutting one leg off and breaking the other.
June	3,	John Tranter, ...	Miner, ...	60	M.	Leggett's Creek, ...	Lackawanna, ...	A small piece of coal from face of chamber fell on him and injured his breast.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief
June 6.	Mike Strucko,	Miner,	39	M.	Lackawanna,	Lackawanna,	While barring out a piece of coal from face of chamber it fell against his leg and broke it.
10.	John Fegan,	Laborer,	24	S.	Simpson,	Lackawanna,	While loading a car at face of chamber, a piece of dividing rock fell and broke his leg and arm.
16.	Frank Nengavage,	Laborer,	32	M.	Forest City,	Susquehanna,	While trying to get out of the way of a falling slab of rock at which he and the miner had been prying, he stumbled and fell; the rock struck him and fractured his ankle.
16.	William Coyle,	Miner	30	M.	Marvine,	Lackawanna,	While barring down coal after a blast, some rock came with it, and fell against his knee, bruising it.
24.	Andrew Cordash,	Laborer,	29	S.	Simpson,	Lackawanna,	While loading a car, a piece of coal fell and hurt his back.
26.	David Roman,	Laborer,	56	M.	Forest mine	Lackawanna,	The miner tried to pull down a piece of "six-inch" coal but failed, and he and the laborer went to work under it, and in a few minutes it fell, fracturing his ribs and thigh.
26.	Frank Wayshetski,	Miner,	50	M.	Mt. Jessup,	Lackawanna,	A car was started from the face of a breast by a shot; he ran after it to stop it, and as he reached it left the track and caught him on the leg.
27.	John Ruby,	Laborer,	45	M.	Mt. Jessup,	Lackawanna,	While loading a car at the face of a working place, a piece of rock fell on him and broke his leg.
28.	Albert Norris,	Runner,	24	M.	Storrs No. 2,	Lackawanna,	By trying to couple two cars on a "fly" two fingers were cut off.
28.	John T. Reese,	Miner,	39	M.	Mossic Mountain,	Lackawanna,	While stooping to lift a piece of coal, a slab of rock which he had but a short time before been trying to pull down, fell on him and forced his face down against some loose coal on bottom, breaking his jaw and otherwise injuring it.
July 5.	Michael Gabera,	Miner,	32	M.	Simpson,	Lackawanna,	While working out bottom coal, a piece of "fourteen-inch" coal fell on him, injuring his back and hips.

6,	Tony Erego,	Laborer,	24	S.	Edgerton,	Lackawanna,	While loading a car under the brow of top coal, a piece of it fell, killed the miner and injured this man.
6,	Harry Armstrong,	Miner,	40	M.	Pancoast,	Lackawanna,	While trimming down the face after a shot, a slabe of rock fell and broke his shoulder bone.
18,	Jacob Skymski,	Miner,	55	M.	Moosic Mountain,	Lackawanna,	On going back to face after firing a shot, he noticed a loose piece of rock and tried to pry it down but failed, and proceeded to "work" out the coal from under it, and in a short time brought it down on himself and his knee was broken.
20,	Allen Wark,	Miner,	56	M.	Leggett's Creek,	Lackawanna,	He fired a shot that discharged a prop, and while resetting it, a slab of rock fell and severely injured his back and breast.
21,	Andrew Elax,	Laborer,	29	M.	Pancoast,	Lackawanna,	While loading a car, a slab of rock fell and fractured some of his ribs.
22,	Alexander Sholock,	Miner,	30	M.	Pancoast,	Lackawanna,	Fired a shot, which cut a strong feeder of gas, and on reaching the face discovered a small body, and after placing his lamp back a short distance began brushing it out, but it failed to pass the naked light, exploded and burned his face and hands.
23,	John Hopkins,	Door tender,	15	S.	Storrs No. 3,	Lackawanna,	Was standing near a door when an empty car jumped the track and bruised his leg
28,	Joseph Yahas,	Miner,	48	M.	Pancoast,	Lackawanna,	Broke two boards from a brattice in old works and went "exploring," and in a short time discovered a small body of gas, which exploded by coming in contact with his naked light, and burned his face, hands and back.
28,	Rudolph Magner,	Miner,	36	M.	Sturges,	Lackawanna,	Was firing a shot the first squib missed, he returned, inserted the second and ignited it and retired to a place of safety, waited, as he thought, a reasonable time, then thinking this one had also missed he started back to the face and arrived just in time to be shot, and his leg was fractured.
Aug. 4,	John Thomas,	Laborer,	18	S.	Richmond No. 4,	Lackawanna,	Severely injured by a shot that blew through a pillar behind which he and his miner had gone to await the explosion of a blast; the miner was killed.
8,	Ira Knapp,	Timberman,	35	M.	Richmond No. 4,	Lackawanna,	While timbering a doubtful piece of roof, a prop fell on his leg and broke it.
17,	Wassai Nestarock,	Laborer,	46	M.	Sterrick Creek,	Lackawanna,	Slipped off a car and his leg was broken; he was standing on the bumper to "top the car."
21,	James Carter,	Driver,	16	S.	Gipsy Grove,	Lackawanna,	Was riding out a gangway on a car, which got off the track, caught his leg and broke it.
21,	Edmond Morgan,	Miner,	35	M.	Storrs No. 1,	Lackawanna,	Leg fractured by a fall of rock, which first struck the "gob," then slid down against him.
22,	Harry Brown,	Miner,	65	M.	White Oak,	Lackawanna,	Leg fractured; he sounded a piece of coal and thought it was safe to work under for a short time, but it fell while he was loading a car.

TABLE V—Continued.

Date of accident	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Aug. 22.	John T. Williams,	Miner,	62	M.	Jermyn No. 1,	Lackawanna,	Was driving a cross-cut from his own to the next chamber and while on his knees at the edge of the cross-cut, looking at the results of a shot, a slab of fire clay fell on him and very badly bruised him.
22.	David Thomas,	Driver,	17	S.	Storrs No. 2,	Lackawanna,	While driving a mule and trip of cars out a gangway, he had occasion to stop and his foot was caught in a frog and his toes were badly cut.
29.	David James,	Driver,	15	S.	Eddy Creek,	Lackawanna,	Leg fractured by stepping off a car; was caught between head block and bumper.
Sept. 1.	Joseph Chesna,	Miner,	32	M.	Pancoast,	Lackawanna,	Badly injured by a shot that blew through a pillar; he and the laborer went up to where they expected the shot to blow through, mistaking the sound of another shot for their own.
2.	Henry Jones,	Miner,	45	M.	Storrs No. 1,	Lackawanna,	Was driving a cross-cut and soon after getting back to face after firing a shot, a thin bench of coal fell and bruised him.
9.	Stanley Jesnite,	Laborer,	21	S.	Simpson,	Lackawanna,	While loading a car at face, a piece of coal dislodged a prop, which, in falling, struck him across the back and severely injured him.
11.	James Gallagher,	Miner,	45	S.	Simpson,	Lackawanna,	Head cut by a piece of top coal which fell while he was working out the bottom coal.
11.	Anthony Lynott,	Miner,	50	M.	Sterrick Creek,	Lackawanna,	Severely bruised; the top coal fell on him while he was working out the bottom coal.
13.	James Duggan,	Driver,	16	S	No. 1 slope,	Lackawanna,	Kicked over the eye and badly cut by a mule he was driving out along a gangway.
14.	George King,	Driver,	16	S.	Olyphant No. 2,	Lackawanna,	Arm fractured by a kick from a mule that was pulling a trip of cars out a gangway.
26.	John Finnigan,	Door tender,	58	M.	Marvine,	Lackawanna,	A slight explosion of gas occurred near the door he was tending, which blew it against him, slightly injuring him.
30	Michael Jevitt,	Miner,	6	M	Glenwood,	Lackawanna,	Was shoveling coal back when a "saddle" [illegible] fell without warning, cutting him on [illegible]

	26.	Casimer Strokum,	Miner,	35	M.	Lackawanna,	Lackawanna,	While a mule was passing back from face after hauling a car up, the trace caught the car and threw it off the track against the man and broke his arm.
	27.	Joe Misholack,	Laborer,	26	M	Olyphant No. 2,	Lackawanna,	Was loading a car at the face of a breast, when a slab fell on him and injured his spine.
Oct.	2.	Alfred Hole,	Driver,	18	S.	Gipsy Grove,	Lackawanna,	While picking up a stretcher a mule kicked and slightly injured him.
	14.	John Ronk,	Miner,	40	S.	Pancoast,	Lackawanna,	Slipped in front of a car that he was holding back as it was going down a slight grade, and dislocated his knee.
	17.	Mecola Slovick,	Laborer,	55	S.	Lackawanna,	Lackawanna,	While coming out a gangway on which there is a "tail rope," he was caught by an outgoing trip, dragged for about fifty feet and seriously injured.
	26.	Patrick Ferguson,	Miner,	42	M.	Murray's,	Lackawanna,	By a fall of bone at face of breast, two ribs were fractured and collar bone dislocated.
Nov.	1.	William Egruff,	Door tender,	14	S.	Eddy Creek,	Lackawanna,	Owing to a misplaced switch, the cars went one way, the mule the other, until they got off the track, where the boy was standing and his leg was broken.
	6.	James Tigue,	Miner,	33	M.	Gipsy Grove,	Lackawanna,	While walking back from face to eat a lunch a small slab of rock fell on him and bruised his back.
	11.	Michael Vishonski,	Laborer,	22	M.	Eddy Creek,	Lackawanna,	Shortly after getting back to face of gangway after firing a blast, a four-inch slab of rock fifteen by twenty feet, fell, killed one man and injured these two. The miner had twice tried to pull it down but the shot just fired broke it off at the inside end and loosened it from the roof.
	11.	Patrick Mulligan,	Miner,	43	M.	Eddy Creek,	Lackawanna,	
	15.	George Cooper,	Miner,	46	M.	Pancoast,	Lackawanna,	Was firing a shot; the first squib missed; he put in the second, retired to a place of safety, waited a while, returned again to the face just as the shot went off, and received numerous cuts.
	16.	John T. Williams,	Assistant foreman,	23	S	Blue Ridge,	Lackawanna,	While riding up an outside plane on the first car of a trip of two, it left the track, threw him off and his leg was fractured.
	25.	John Manley,	Door tender,	14	S.	No. 1 tunnel, No. 1 col.,	Lackawanna,	Was riding into the mine on a car; in getting off slipped and fell under the first car, which passed over his arm and broke it.
	27.	Andrew Griselo,	Miner,	28	S.	Sturges,	Lackawanna,	While mining out the bottom coal after a shot, a six-inch bench of top coal fell and seriously injured him.
	29.	Archibald Muir,	Driver,	17	S.	Marvine,	Lackawanna,	A mule that was attached to a truck "turned out" too soon and pulled it off the track against his feet, breaking it.
	30.	Eugene Wagner,	Miner,	17	M.	Storrs No. 3,	Lackawanna,	These men were cut on face and hands by flying coal thrown by a premature discharge of powder; which exploded while they were tamping.
	30.	Joseph Newmarry,	Laborer,	39	S.	Storrs No. 3,	Lackawanna,	
Dec.	1.	William Burke,	Miner,	53	M.	Powderly,	Lackawanna,	While drilling a hole a small piece of coal "slid" struck him on the hip and injured it.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Dec. 11.	Nicholas McShelock, ...	Miner, ...	28	M.	Simpson, ...	Lackawanna, ...	While "working out a shot," a lump of "14-inch" coal fell on him and badly bruised his back and shoulders.
11.	Samuel Harvey, ...	Driver, ...	19	S.	Jermyn No. 1, ...	Lackawanna, ...	Kicked on the stomach by a mule and again on the head when falling forward; his skull was fractured.
11.	Albert Yorka, ...	Miner, ...	30	M.	Johnson's No. 1, ...	Lackawanna, ...	Fired a shot that dislodged a prop that he had placed under a "bell," and when stooping to lift the prop to replace it, the "bell" fell and injured his back.
14.	Stanley Harsh, ...	Laborer, ...	27	S.	Riverside, ...	Lackawanna, ...	While loading a car a fall of rock occurred which injured his back.
14.	Ed. Hoban, ...	Miner, ...	35	M.	Johnson's No. 1, ...	Lackawanna, ...	These two men were working in a gangway, using safety lamps, but had a naked light outside of the inside cross-cut; in running their car out, it happened to stop in the door and remained there a few minutes, and notwithstanding that there was another door controlling the same current, the gas gathered near the face, and when the miner went back to make up powder, safety lamp in hand until he came to the naked lamp, which he picked up and ignited the gas, severely burning him on face and hands and slightly burning the laborer. The foreman, on the preceding day extinguished a naked light which he found at this place and cautioned them against keeping it there.
14.	Pat. Philbin, ...	Laborer, ...	37	S.	Johnson's No. 1, ...	Lackawanna, ...	
16.	Thomas Walton, ...	Driver, ...	15	S.	Sterrick Creek, ...	Lackawanna, ...	Whipped his mule, causing it to run away, and, in trying to catch it, was kicked on head, causing a fracture of skull.
16	Frank Wowish, ...	Head tender, ...	35	M.	Pancoast, ...	Lackawanna, ...	After unhitching a chain from a culm car on head of plane, he slipped and fell, was caught by chain and his leg fractured.

19.	John Kernan, ...	Miner, ...	45	M.	Marvine, ...	Lackawanna, ...	While barring out coal after a shot, part of it fell against a prop and dislodged it, causing some rock to fall on him, injuring his back and hips.
27.	Joseph Barnes, ...	Miner, ...	49	M.	Marvine, ...	Lackawanna, ...	After replacing a derailed car and starting it, it again jumped the track and struck him and his leg was fractured.
28.	John Pritchard, ...	Miner, ...	45	M	Storrs No. 2, ...	Lackawanna, ...	While replacing a prop, a slab of rock fell, struck the ground, then fell over on his leg, fracturing it.

Second Anthracite District.

LACKAWANNA COUNTY.

Scranton, Pa., February 14, 1900.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor of presenting my report as Inspector of Mines for the Second Anthracite District for the year 1899, as required by section 9, article 2, Anthracite Mine Law, 1891, etc. It will be found to contain the statistics asked for by the Chief of Bureau of Mines, with other information in tabulated form, together with remarks covering the work done and the observations made during the year, with the results attained.

Respectfully submitted,

H. O. PRYTHERCH,

Inspector.

Table A.—The Production of Coal in Tons During 1899.

Delaware, Lackawanna and Western Railroad Company,	3,076,690
Austin Coal Company,	56,212
Delaware and Hudson,	412,090
Scranton Coal Company,	674,899
Mt. Pleasant Coal Company,	275,631
Green Ridge Coal Company,	122,667
Pennsylvania Coal Company,	413,510
William Connell & Co.,	130,175
Connell Coal Co.,	266,154
Greenwood Coal Company,	213,427
Brooks Coal Co.,	43,030
John & J. J. Jermyn,	367,689
Elliott McClure & Co.,	107,500
West Ridge Coal Company,	103,549
A. D. & F. M. Spencer,	81,583
Nay Aug Coal Company,	77,973
Gibbons Coal Company,	8,979
North American Coal Company,	174,017
Bowen Coal Company,	55,600

Bull's Head Coal Company,	48,147
Carbon Coal Company,	5,118
Lackawanna Iron and Steel Company,	59,818
Total,	6,774,458

The total production was made up as follows:

Shipped by railroad to market,	6,173,718
Sold at the mines for local use,	239,691
Consumed to generate steam,	361,049
Total,	6,774,458

TABLE B—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
Delaware, Lackawanna and Western Railroad Company,	18	170,926
Austin Coal Company,	2	28,106
Delaware and Hudson Company,	3	137,364
Scranton Coal Company,	5	134,979
Mt. Pleasant Coal Company,	2	137,815
Green Ridge Coal Company,	3	61,333
Pennsylvania Coal Company,	5	82,702
William Connell & Co.,	1	130,175
The Connell Coal Co.,	1	266,154
Greenwood Coal Company,	1	213,427
Jermyn & Co.,	4	91,922
Elliott, McClure & Co.,		107,500
West Ridge Coal Company,		103,549
E. D. & T. M. Spencer,	1	81,683
Nay Aug Coal Company,	1	77,973
Bull's Head Coal Company,		48,147
North American Coal Company,	2	87,008
Bowen Coal Co.,	1	55,600
Brooks Coal Company,		43,030
Gibbons Coal Co.,		8,979
Carbon Coal Company,		5,118
Total and average,	49	138,254

TABLE C—Showing the Number of Fatal and Non-fatal Accidents and the Number of Tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Number of tons of coal produced per accident.
Delaware, Lackawanna and Western Railroad Company,	97	31,718
Austin Coal Company,	2	28,106
Delaware and Hudson Company,	11	37,462
Scranton Coal Company,	19	35,521
Mt. Pleasant Coal Company,	16	17,227
Green Ridge Coal Company,	5	24,533
Pennsylvania Coal Company,	16	25,844
William Connell & Co.,	4	32,544
The Connell Coal Co.,	7	38,022
Greenwood Coal Company,	5	42,085
Jermyn & Co.,	13	28,283
Elliott, McClure & Co.,	1	107,500
West Ridge Coal Company,	3	34,516
E. D. & T. M. Spencer,	2	40,791
Nay Aug Coal Company,	3	25,991
Bull's Head,	.....	48,147
North American Coal Company,	2	87,908
Bowen Coal Co.,	2	27,800
Brooks Coal Co.,	.....	43,630
Gibbons Coal Co.,	.....	8,978
Carbon Coal Company,	.....	5,118
Totals and average,	208	32,569

TABLE D—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured.	Injured.	Total.
Falls of roof and coal,	26	66	92
Explosions of gas,	1	9	10
Explosions of blasts,	1	24	25
By mules,	.....	2	2
Cars, inside,	13	40	53
Cars, outside,	2	6	8
Falling down shafts,	1	2	3
Breaker machinery,	3	5	8
Miscellaneous, inside,	2	.....	2
Miscellaneous, outside,	.....	5	5
Totals,	49	159	208

TABLE E—Occupations of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners,	12	47	59
Laborers,	12	43	55
Door boys,	2	7	9
Drivers and helpers,	9	29	38
Outside laborers,	5	10	15
Company men, inside,	3	10	13
Headmen,	1	.....	1
Fire bosses,	1	.....	1
Runners,	1	5	6
Slate pickers,	2	1	3
Sinkers,	.....	2	2
Engine drivers,	.....	1	1
Outside foremen,	.....	1	1
Mining engineers,	.....	3	3
Footmen,	1	.....	1
Totals,	49	159	208

TABLE F—Nationality of Persons Killed and Injured.

	Welsh.	English.	Scotch.	Irish.	Poles.	Slavs.	Austrians.	Americans.	Hungarians.	Italians.	Swedes.	French.	Germans.	Bohemians.	Russians.	Lithuanians.	Total.
Killed,	7	3	2	14	6	.....	.....	7	.....	3	2	.....	2	1	1	1	49
Injured,	26	11	1	41	26	1	4	27	1	6	2	1	9	.....	1	2	159
Totals,	33	14	3	55	32	1	4	34	1	9	4	1	11	1	2	3	208

1898 and 1899 Compared.

During 1898, 15851 persons were employed in and about the mines of the district; 5,496,150 tons of coal were produced and there were 31 fatal and 154 non-fatal accidents; therefore, 177,295 tons were produced per life lost, and 29,109 tons per accident.

During 1899 the accompanying table will show that 15,419 persons were employed, being a decrease of 432; 6,744,458 tons of coal were produced, being an increase of 1,278,308; 49 fatal and 159 non-fatal accidents were returned, showing that 138,254 tons were produced per life lost and 32,569 tons per accident. While the number of tons produced per life lost is lower than for 1898, the number of tons per fatal and non-fatal accident is greater.

Sixteen nations are represented in the lists of killed and injured,

and nearly every occupation from outside foreman to door tender in the mine is also represented.

4,446 persons were employed outside, and 10,973 inside. Table III will show these numbers further divided into occupations.

237,891 kegs of powder and 112,149 pounds of dynamite were consumed during the year.

There were 1,933 horses and mules in use; 570 boilers generate steam for the use of engines and pumps; of the latter, 87 are used exclusively to deliver water to the surface.

Average number of days worked, 178.7.

Tons produced per employe, 439.3.

General Remarks.

It is one of the unpleasnt duties of the Mine Inspector to record the list of casualties which have taken place in the mines under his inspection at the close of each year. In order to tabulate these for transmission to the proper department, the year's accidents are reviewed singly and collectively with the many circumstances attending them. Should a catastrophe occur resulting in great loss of life and inflicting injuries to a large number of persons, it would attract wide attention, and possibly a considerable amount of substantial sympathy for those affected. The list presented with the report, as will be seen by reference to Tables IV and V, is made up of accidents resulting in the death or injuries of a single person, in most cases. Occurring as they do, they do not attract the attention nor do the victims and those immediately related to and dependent upon them receive the sympathy of the generous public, as in most cases they would in case they were victims of a great disaster. These accidents occur from day to day, and are reported to the public in the press as they occur, as a part of the news of every mining region.

Should the list for the year under consideration compare favorable with the list of the past year, those immediately interested will be found reporting, with some degree of self congratulation, that the number of accidents have, owing to the exertion of more than ordinary precaution and care, been reduced materially, while the result of the following year with the same, if not more care, will present a large excess in the list of killed and injured. Many efforts have been made in the past to explain why the quantity of coal mined in the same district, and under the same conditions, per life lost and per accident, should vary so very much, and it has been given as a probable reason that during brisk times at the mines the men are pushed to accomplish so much work in a stated time, that they are not able

to take the necessary precaution to protect themselves. On the other hand, it has been suggested as an explanation, that while the mines are working broken time, say two or three eight-hour days per week, the men become careless. It has been inferred that the underground worker goes to work with such indifference to his own safety as to amount to suicidal recklessness. These explanations, with many others which have already been offered, do not seem to the writer to be in harmony with the figures compiled for years past, nor with his observations in the mines. There is no reason why the miner should be considered more indifferent to his own safety than his brother who follows another avocation.

"Familiarity breeds contempt." If this can be applied to the miner, surrounded as he is by many sources of danger, from the time he leaves the top of the shaft in the morning until he reaches the same place after his day's work, it may also be said that the condition of his working place is continually changing with every blast he fires. The explosion of blasts in other working places affect the safety of his own. Under such conditions, it is natural for us to conclude that the miner, in the course of time, grows less vigilant. Nevertheless, he is far from being indifferent to his own safety. The victims of the accidents returned from this district with this report, represent sixteen nationalities. Those who have worked in the mines from childhood, are among the killed and wounded, as well as those who have arrived in this country without any previous experience. It should also be noted that nearly every occupation, from the outside boss to the door tender in the mine, has suffered. We cannot, therefore, say that even experience is a sufficient safeguard.

Every county and state in which coal is being mined reports a list of accidents every year. This list is large or small, to a great degree, according to the surrounding conditions. In making the foregoing remark, I do not wish it to be inferred that no importance it attached by me to good management, but rather that the prevailing conditions will regulate the accidents to a greater extent. It has often been observed that mines which are working under comparatively safe conditions, even if the management is somewhat defective, are more free from accidents than a mine the management of which is of the best order but the surrounding conditions less conducive to safety.

The best remedy which has yet been applied to improving the condition of the underground worker is the enaction of mining laws. These, in a general way, define the provisions required, such as openings or escape ways, the quantity of air which shall be supplied, the precaution to be taken in case any impending danger should threaten the safety of the whole mine, or any section thereof together with a specification of the duties of those in charge, as well as the miner, in detail. It is difficult for us to conceive the benefit

which is being derived from the enforcement of the mining laws, inasmuch as our mines were never operated in their present condition independently of such laws. It appears that the results attained, however, is not satisfactory to a certain class. They have been disappointed because they expected the number of accidents to be reduced from year to year, until they would become things of the past, while the condition of the mines in some sense is becoming less safe as the work progresses. While it would be almost impossible to frame a law which would cover all the conditions under which accidents take place in and about the mines, the law now in force covers the ground remarkably well, without being voluminous, and provides a basis upon which any matter or thing connected with or relating to the mining of coal may be discussed with the operator with the view of protecting life, limb, health and property. The question which has agitated the minds of those most interested in the safety of the underground work, as well as others who wish to be considered interested, is the following:

In what manner and direction can better methods of enforcing the provisions of the law be attained? This question has received my best attention during the year just closed. An energetic effort has been made during the many tours of inspection of the underground workings, plants and machinery, together with the investigation of all the fatal accidents and the most serious non-fatal accidents, at which time the Mine Inspector is brought into very close contact with those whose safety is desired, to impress each and every class with the responsibility which the law places directly on their shoulders. In this manner I am able to cover in a particular way the accidents which occured in or near the face of the working place, and which make up 53 per cent. of the fatal and 44 per cent. of the non-fatal ones. This being done at the scene of a recent fatality, or in the presence of some defect complained of, with ample resources of sad occurrences to draw from for illustration, appears to the writer to be about as effective a way of imbuing those who are the custodians of their own safety, as well as the safety of their fellow men to a great extent, with the necessity of exercising an untiring vigilance.

In a similar manner, as circumstances permit, other employes' attention is called to the same necessity in the directions peculiar to their duties. In addition to the matters of detail, which form an important part of every inspection and investigation, the general discipline of the mine, with the methods in vogue, having for their object the health and safety of the employes, receive attention also. Practical suggestions are made whenever found necessary in order that all precautions shall be fully in harmony with the requirements of the law, and every effort set forth to stimulate those having charge in any way to co-operate in an united action against accidents. In

addition to the foregoing details, the mines of the district are inspected as frequently as the duties of the office will permit. While I am giving my whole time and attention to the duties of the office, I am free to admit that I am not in a position to offer any guarantee against accidents to single persons or in larger numbers.

Condition of the Mines.

In a general way, the present condition of the mines of the district will compare favorably with their condition at the time of the last report. In one sense, the condition of the mines is not improving but rather each year's work increases the territory to be taken care of, as the cavities made by the extraction of 6,744,458 tons of marketable coal during 1899, with its accompanying refuse and impurities, will probably be the scene of some casualties during the coming year. While I am not in a position to say that the several mines are in perfect order, a commendable effort is being made to respect the provision of the law and to protect the lives and limbs of those employed. It is seldom, indeed, that when a mine is inspected some suggestions of improvement cannot be made. It is gratifying, however, to note the readiness with which the mine officials for the most part act on such suggestions. This serves to show that a firm cooperation exists, looking towards the safety of the mines and those employed therein. It has been noticed in reports of past years that we are surrounded not only by the difficulties which are met with in the veins which are now being mined, but also by troubles originating in veins which have been worked out. In most cases, old workings overlay or underlay new mines. Apart from the danger which accompanies the breaking up of the dividing strata, it also has the effect of deranging the ventilating current in both veins, thus introducing another element of danger, and causing trouble in keeping the ventilation up to the standard required by law. Apart from such circumstances as we have just described, the ventilation of the mines is in good condition. The main roads are receiving proper attention. These are now better provided with head blocks, etc., where needed, and room on the side for the protection of the drivers, than before.

The Accidents of 1899.

I deem it prudent to make a few remarks on the accidents of the year, and to offer a few practical suggestions:

The accidents which resulted at or near the face of the working places form the largest item in the list, and affect two classes of employes, namely, the miner and laborer. Upon reference to the accompanying tables, where each accident is described, it will be found that the greater number of these took place after blasts were fired.

Very often at such times, props which had been stood to support the roof are dislodged by the flying coal from blasts. The miner who makes the examination of the "face" discovers this, and immediately sets to work, assisted by his laborer, to re-stand the timber. While thus engaged, a number were killed and injured during the year. The desire to ascertain the effect of blasts has lured many to the face before the smoke had cleared away, and before any large fragments of roof rock which had been disturbed by the concussion of the blast or otherwise had fallen, has also resulted in many accidents. At the investigation of many of the accidents resulting from falls of roof, it has been ascertained from the testimony of those present before the accidents, that the roof had been examined after the blast, to ascertain its condition; nevertheless, falls of roof take place a short time later, proving that the examination had been made too hurriedly, or otherwise that too much was taken for granted. The same remarks hold good with reference to the coal face in high veins.

The same classes are much exposed to the dangers which accompany the care of, and use of explosives in mines. Apart from the danger which is always present where explosives and naked light lamps in a strong current of air are in close contact, it is found that a large number of accidents have resulted from lack of judgment. During the year, particularly in its latter part, a number of employes were injured severely by flying coal from blasts. In a majority of these cases, the miner having retreated to a place of safety after igniting the squib and giving the necessary alarm, becomes impatient, and concludes that the squib has "missed" and starts towards the face for the purpose of re-igniting it, when he is met by flying coal from the blast. Another way in which accidents from this source take place, is the following: The miner retreats to a supposed place of safety, or to a place of actual safety, but exposes himself while watching for a "miss" shot, and as a result is struck by flying coal from the blast. The practices resorted to by some incompetent miners, namely, that of ramming powder into a tight hole, as well as the preparation of the charge with the lighted lamp or pipe at close range, have added their quota to the list. It is gratifying to note that the cases in which men have been injured by blasts fired in other places, or by other hands, have been reduced, thus showing an improvement in the matter of giving alarms.

Accidents to Drivers and Helpers.

These accidents are of a more varied kind than those which befall the victims of accidents resulting from falls of roof and coal. It may also be stated that this class of employes are less responsible for the

safety of their surroundings than are miners and laborers. They also cover larger territories in the discharge of their duties, while the miner and laborer have their attention confined to the one place only. The safety of the driver and his helped depends to a greater extent upon the manner in which others perform their part.

Accidents to Door Tenders.

The victims of accidents which belong to this class are but seldom injured while at their own post of duty. It is the ambition of the door tender to be promoted to the rank of driver; on this account he is always on the alert for an opportunity to practice driving and spragging cars, and, as a rule, it is while he is away from his own work that he is injured or killed.

It is easy to suggest a remedy which would have prevented an accident had it been applied in time. For instance, when a man is killed by a fall of top coal, after the occurrence a slip or fracture has been exposed to view which, previous to the accident, was not visible, and inasmuch as the miner could not observe any immediate danger he is lured to work under the hanging coal until the fall takes place. He is risking his life, on the strength of his judgment and past experience. Although the numerous accidents which take place illustrate the fact that the only safe method to adopt is to take every precaution which can be applied, men are prone to depend rather upon their judgment, and this is one of the greatest obstacles in the way of attaining respect to the suggestions which are made in full view of the many circumstances attending accidents in a wide field. These remarks are true also of accidents from falls of rock.

The matter of accidents resulting from falls of rock and coal is receiving more than passing attention by the government officials in the English mining regions. One of the recommendations made by them is that the number of props or cross timbers to be stood shall not be left entirely to the discretion of the miners or mine officials, but rather than the distances between the timbers shall be a stated one, and that the spragging of coal as it is being undermined shall be dictated. In our Anthracite mines all the coal is mined by blasting, while the English miner is allowed to use but a very limited quantity of powder; hence, the recommendation noticed may have the desired effect in his case. If we instance a chamber in which the roof is not of the safest kind, and remember that twenty-five pounds of powder is used to mine from ten to thirty tons of coal, the concussion of the blasts, together with the flying fragments of coal which often dislodge the timbers which have been stood to support the roof, the conditions surrounding our anthracite miner will

be seen to differ materially from those which surround the English miner with regard to falls of roof.

Ambulance Work.

In view of the fact that so many accidents are taking place in and about the mines, and inasmuch as a desire has been shown to alleviate the pains of the unfortunates by an endeavor to provide for their comfort in requiring the several companies or operators, to keep at the mines such appliances and medicines as may be of use in such cases, I feel that it is my duty to again express my opinion, that it is not so much the lack of such provisions but rather of persons who are in possession of the necessary knowledge to apply them. It has often been observed how utterly unable are the underground workers to properly assist each other in case of accident. They cannot be blamed for this; the means are not placed within their reach to acquire this useful knowledge. It appears to the writer that some steps should be taken to remedy this defect by providing instructions in ambulance work during the winter months. It is my opinion that a number of persons from each mine would attend and acquire the knowledge which would enable them to materially assist the victims of mine accidents.

This matter has received attention in a former report.

Reports, Etc.

The reports which are required by law to be furnished, to the Mine Inspector of the district at stated times, such as reports of air measurements, of examination of boilers, of accidents, etc., reach the Inspector's office in due time with but few exceptions. Such reports as are required to be kept at the office of the mine have been found to be less satisfactory. No cause for complaint has been noticed with regard to the manner in which the reports of the morning examination of the mine workings are kept; these are duly made in a book kept for the purpose. The reports of the weekly examinations of old workings, which is of great importance as a factor in means used to guard against accidents from explosion of gas, squeezes, etc., have in many cases in the past been neglected. In no case have I known the examinations to have been neglected. On tours of inspection through old and abandoned workings, I have never failed to observe the dates plainly marked at different points while the report book bears no record of the same.

It has also been noticed during the many inspections of machinery and plants made during the year, that in but few cases are reports kept of the daily examination of cages, safety catches, ropes, bridle chains, etc., etc. The law does not state that reports of such

examinations must be kept; nevertheless, the management cannot well prove that such examinations have been faithfully made in the absence of such records.

Apart from the bearing the several examinations required by law have upon the safety of the mine, the several reports of the same if well and systematically kept, show method and good discipline, and in case of a serious accident, they form the most important evidence. Suggestions covering all defects found in this respect during the year have been made and are being respected.

Mine Fires.

The district has been comparatively free from mine fires during the year, one only having taken place, and no accidents have resulted so far. A fire was discovered in January, 1899, in the workings of No. 2 Dunmore vein, of the Nay Aug slope colliery. The vein is about 20 feet above water level, and the location affected underlies the large culm dump of the Spencer breaker. As the vein has but a thin cover, it was supposed that the fire originated at a fall which took place immediately under the culm dump. The supposition has been substantiated by subsequent falls of similar natures, these falls having been accompanied by heat or fire in almost every case. Previous to the discovery of the fire, the mine was ventilated by natural means. These means proved ineffective, consequently the mine became filled with gases. A fan was erected, the mine cleared of gases and a strong current of return air directed so as to pass the fire to the upcast; in this manner the few persons now employed in the vein are enabled to work again. Inasmuch as it is impossible to isolate the affected district, owing to its position, it was suggested to the company that a belt of flushing be run in to cut off the fire from the workings. This suggestion has not yet been acted upon. However, precautions have been adopted to guard against accidents in case the fan stops and the current from the fire returns towards the workmen. A constant watch is also kept up day and night for other falls which might affect the safety of the employes.

Colliery Improvements and Their Effect Upon the Safety of the Mine.

The improvements reported from year to year have for their main objects the reduction of the cost of production of coal and especially is this true of the installation of haulage systems and the introduction of fast motion engines to take the place of others which have become inefficient to cope with the work now to be done in a stated time. The old style boiler which was recommended for its portability and simplicity more than for any other quality, is fast making room for more modern types. With these improvements, however, the condition for safety in the mine is also improving. With a good haulage

system, mules and boys are not employed in great numbers on main roads, where the most traffic is being carried on, except at stations where the trips are made up. During the year 1899 a number of electric haulages have been introduced into the mines of this district. No accidents have resulted which can be traced to the use of electricity.

A number of automatic mine doors have been introduced into the mines since the passage of an act to amend the tenth section of article ten of the Anthracite Mine Law of 1891, in April, 1899. In the locations which have been selected, these doors appear to be yielding satisfactory results.

As has been noticed in reports of past years, there are a number of bodies of water in abandoned workings in the district. One side only of the pillars against which they rest is accessible for the purpose of ascertaining their condition, and no means are available by which their thickness may be ascertained except by boring; old surveys and maps in most cases being inaccurate. Where these bodies of water are to the rise of adjoining mines, even if it has been demonstrated that they are comparatively safe under the conditions now prevailing, in case of an extensive squeeze taking place in one or more of the adjoining mine workings, should this approach the barrier pillar, it is possible that the result would be detrimental to the interests of the adjoining operators, even if all persons had been withdrawn.

I am pleased to note that one such body of water has been drained during the year, namely, the Rockwell slope workings. These workings are on a pitch of twenty-five degrees, furthermore no map of them could be found. The Delaware, Lackawanna and Western Railroad Company's Cayuga Clark vein workings and the Delaware and Hudson Company's Von Storch Clark vein lie immediately below the workings referred to. The water was tapped from the Cayuga mine by a bore hole, and allowed to drain off, and the old workings surveyed and mapped as far as falls would permit, for future reference.

The Scranton Coal Company's Capouse mine, Clark vein workings, have been filled with water to the level of the New County vein above, for years past. This water rests against the pillars dividing the mine from four adjoining mines. I am pleased to report that this also is in the course of being pumped out.

Flushing is being done at many of the mines of the district. Old workings which are above and below those in course of operation are being filled up in a systematic way from the large culm dumps outside. In most cases this is being done in connection with the preparation of coal from the culm dumps in washeries. As a measure to prevent a general movement of the strata in the shape of squeezes,

perhaps there are no better means at our command. In addition to the increased safety afforded, it is safe to say that large quantities of coal will also be made available in the future, which would otherwise be lost.

The work of robbing pillars is being carried on at many of the mines. When this has been done in accordance with a fixed and approved plan, it lessins the vast extent of cavities at many of the mines, and while it induces coal caves as the work progresses, it limits the field of future trouble in that regard.

Ventilation.

One of the problems which will demand a solution in the near future, in this inspection district, is the one pertaining to ventilation. The mining of the larger veins has been carried on for many years, with good results. A number of the mining companies have already sunk their shafts down to the lower or Dunmore veins, with the view to developing them while the upper veins are being exhausted. The Dunmore veins are thin compared with the upper veins, and at the depths at which those veins will be met with, it is probable that large quantities of gas will be given off. The shafts which have already been sunk have demonstrated this to be the fact, and I may also state that these veins will, in most cases, mean contracted air-ways and require a higher water gauge. The ventilating fans in use in the district are of the open running type with but few exceptions. These are of comparatively small diameters and are not capable of attaining a high rate of speed. When erected they were sufficient for the work expected of them. The work of mining has been carried on to such an extent that vein after vein has been developed and some have been exhausted, making in all large territories of workings to be kept ventilated by a fan originally erected to ventilate smaller areas. In order to accomplish this, the fan speed has been increased to its limit, the ventilating current split, and the area of the air-ways kept as large as possible. In this way a great deal has been done to assist the fan as much as possible. In some cases it appears to the writer that the full extent of the usefulness of these machines has already been developed. If this be the case, how is the ventilation of the lower veins to be accomplished? I am in possession of data which continually reminds me of the fact that the ventilation of the old workings must not be neglected, in order to accomplish the desired end in the new ones. Are these machines to be replaced by others which will produce larger quantities of air, sufficient to ventilate the new veins and the old workings already referred to, or will they be retained to continue the work which they are now accomplishing, and others of a similar type and capacity

added to care for the new developments? These questions will be answered in the near future by some of the companies operating in the district.

Correct Maps.

The importance of having correct maps of the mines is becoming more apparent every year. Section 5, article 3 of the anthracite Mine Laws, 1891, provides that when an Inspector finds or has reason to believe that any map or plan of any coal mine or colliery, furnished under the provisions of the act, is materially inaccurate, it shall be his duty to make application to the court of common pleas of the county in which such colliery is situated, for an order to have an accurate map or plan of said colliery prepared, etc., etc. The opportunities which present themselves to the Mine Inspector for discovering errors in mine maps are not many. The examination of the extended tracings of the mine workings of the several collieries, as they reach the Mine Inspector's office twice a year, do not exhibit any data from which it can be inferred with any degree of certainty that any material error does exist; neither do they present any proof that the surveys are accurate beyond a doubt, even at such connections as permit of such proofs. The law does not require these details. Under such conditions, the Mine Inspector is not in a position to draw any conclusive opinion as to the accuracy of the mine maps furnished. However, when the provision of section 3 of the article already quoted is complied with, namely, the survey along the line of adjoining properties, and such portions of the mine workings as are intended to be allowed to fill with water, are duplicated, he is able to pass judgment based on the comparison of the two surveys presented to him. Be it noted that it is the opinion of the writer that too much reliance is sometimes placed on such duplicate surveys. Although the workings are surveyed in duplicate, and found to agree, which is a good guarantee of the accuracy of the work as far as it goes, nevertheless the boundary line, which is of the greatest importance in this matter receives less attention. If, in addition to the duplication of the survey of the mine workings approaching the common boundary line it were required that the line itself be located and determined by the engineers of the adjoining properties in conjunction, no loopholes for a wide margin of difference would be allowed. It is well known that, as a rule, the errors in survey for the most part culminate at the several boundary lines, and inasmuch as it is very seldom that two adjoining mines approaching a common boundary simultaneously, it is of the greatest importance that the maps of the mines should be correct. It frequently happens that one of the mines has reached the line by mining years before the other approaches it, and where the latter mine is situated to the dip of

the former, it often occurs that a large body of water is resting against the pillar on the upper side. The time to ascertain the thickness of the pillar has passed. Upon the strength of such pillars the safety of many of our underground workers depend.

The term "material errors," which is used in the law in connection with survey work under the circumstances just noted, may mean a very few feet.

The diagrams which are presented herewith will illustrate the source of error we are endeavoring to explain. They will also show the difficulty met with when interested parties are trying to adjust matters by comparing and exchanging copies of the duplicated surveys of the underground workings, under adjoining properties and approaching a common boundary line. This difficulty has precipitated persons into long and costly litigations, each relying upon the agreement of his duplicated survey of the workings, the matter of the location of the dividing line having been overlooked. As has already been stated, the location of the line affects the thickness of the pillar left. This also, in many cases, is the only reason why so many barrier pillars are found to be of smaller dimensions than represented on the tracings of the mine workings, and, consequently, those employed in a mine protected by a pillar have less security against accidents of a certain nature than they are supposed to have. It is to avoid the latter deception that attention is particularly called to the matter.

There are two things which receive particular attention in connection with the location of the land lines, viz, the description as given in the deed and the marks showing the original location of the line on the ground. These marks for the most part consist of notches in trees, stakes and stones. One of the peculiarities of the older deed descriptions and surveys is that they seldom agree. The question, therefore, which has agitated the minds of engineers is the following: When a difference between the description and the marked line is found to exist, which should be adhered to, the description or the marked line?

We think that the most experienced engineers agree that the marked line has the greater weight. Apart from this, it is well known that in thickly inhabited districts, in cases in which no particular care has been taken to preserve the location of land lines, by the erection of monuments, etc., all the original marks have been obliterated. Therefore, it appears to the writer that the several boundary lines of our mines should be surveyed by the engineers of the adjoining mines in conjunction, for so long as the same line is agreed upon, and located on their respective maps, whether it be the correct line or not, trouble on this score is avoided and greater safety obtained.

Diagram No.1

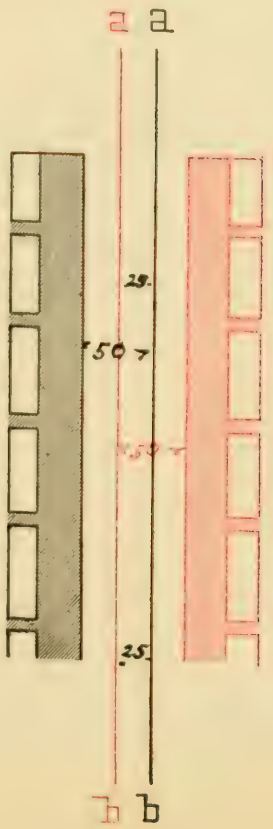
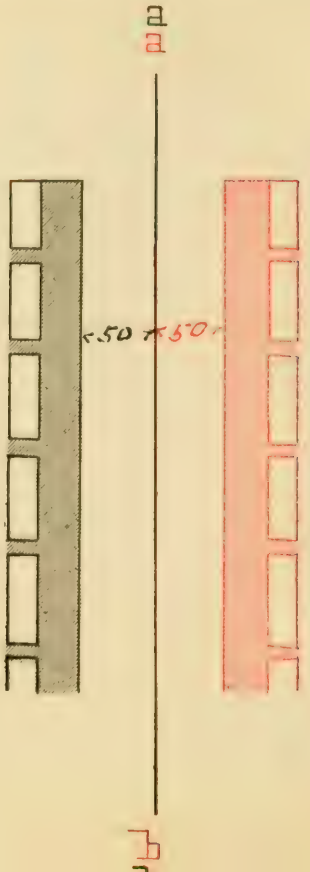


Diagram No.2



Referring now to diagram No. 1, the line a b is the common boundary. The mine workings and the line in black are as determined by the engineer of that mine. The mine workings and line in red are as determined by the engineer of the mine. It is assumed that the dividing line is not well established on the ground, as is often the case. Now a b and a b are in reality the one and the same line; the two positions shown are owing to the difference in the opinions of the engineers. It will be further noticed that the workings in black are fifty feet from the line of the same color, and the workings in red are also fifty feet from its corresponding line. On this account the parties interested have some reason to believe that a barrier pillar of 100 feet is reserved. However, owing to the fact that the position of lines overlap by twenty-five feet, the barrier pillar is less than 100 feet by the amount of the overlap.

The duplication of the survey of the underground workings does not reveal this error. Diagram No. 2 shows the barrier pillar as it will appear when the tracings of the adjoining mines are put together. The line a b is placed on a b for comparisons, and, consequently, the pillar will appear to be 100 feet wide, when in reality it is twenty-five feet less. It, therefore, seems apparent to the writer that such lines should be surveyed by the engineers of the adjoining properties in conjunction.

Seeing that it has been well established that a very few feet may mean a "material" error in such cases as we have quoted, it seems that some means of testing the lengths of tapes used in such important work should be provided in all mining centers. In addition to such standards of lengths, suitable and convenient "bench marks," from which tidal elevations may be carried, together with a fixed line from which, by comparing the bearings as given by the various instruments used, the declinations of the magnetic needle may be ascertained with little labor.

The benefits to be derived from the provisions of the foregoing are manifold.

Collieries which Have Resumed Operations During the Year 1899.

The Delaware, Lackawanna and Western Railroad Company's Sloan and Central mines and the Sloan breaker resumed operations during the latter part of the year. During the long suspension of work at these mines, the two shafts, namely, the Central main hoisting shaft and the Sloan hoisting shaft, have been sunk to the Dunmore veins, and improvements in the breaker have also been effected.

Breaker Rebuilding.

The Oxford breaker, which was formerly owned by the Delaware, Lackawanna and Western Railroad Company, and which was de-

stroyed by fire in April, 1898, is about to be rebuilt by the People's Coal Company, of Scranton, which will operate the colliery in the future.

Washeries.

A number of washeries have been built during the year, and others are in course of construction.

Colliery Improvements During the Year 1899.

Following will be found a brief description of the improvements made in and about the mines of the district during the year. Other items of similar work have been omitted, owing to the inability to collect the particulars of the same. Therefore, the statement does not cover all the new work done during the year to facilitate development, transportation, ventilation and drainage.

Delaware, Lackawanna and Western Railroad Company.

Archbald Mine.—The work of installing a main and tail system of haulage in the Rock vein is in progress. This will require 9,000 feet of rope; the grade is regular for the most part, and in favor of the loaded trips. The engine which will be used is 16x36 inches.

A pair of first motion engines have been erected and are ready for use to hoist in the main shaft; dimensions 22x48 inches. These will take the place of the geared engines formerly used.

A new tunnel is in course of construction, its dimensions are as follows: 7 feet by 14 feet by 300 feet long. It will connect the Rock and Diamond veins on a grade of 5 per cent. when finished.

Sloan and Central.—These shafts have been sunk from the Clark to the Dunmore vein. The work of developing the latter named vein has not yet been commenced beyond the sinking.

Cayuga.—There has been installed at the above mine an electric haulage plant, which is now in operation. The power house is located on the northerly side of breaker on the same elevation as the hoisting engines.

The engine is a McEwing design and built by the Ridgway Engine Company, of Ridgway, Pa. Its rated horse power is 305, stroke 16 inches; bore of cylinder, 10 inches; speed, 240 revolutions per minute. The dynamo or generator is of the Westinghouse Electric Company make. Its speed is 500 revolutions per minute, voltage 250, amperes 600.

The current generated is transmitted to the interior workings of the mine by a four naught insulated wire, where three electric motors of the General Electric Company's make, weighing thirteen tons

each, rated horse power of which is 120 each. Two heading roads have already been wired for a distance of 7,700 feet with contemplated extensions of about 1,600 feet more in the near future. A plane is also being driven from the Big vein to the Diamond vein on a grade of thirteen degrees, the length of which will be 475 feet. There is also in process of construction a boiler plant, consisting of four 250 horse power Sterling boilers to take the place of a number of old cylinder boilers.

Brisbin.—A second opening tunnel has been driven from the Big vein to the Rock vein on a pitch of 40 degrees, length 70 inches, size 7x10 inches.

Diamond.—There is in course of erection a washery, capacity 1,000 tons per day to wash coal from the Diamond dump, the culm to be deposited in the mine by means of a 6-inch bore hole. It will be completed for operation by March 1, 1900.

The Delaware and Hudson Company.

Dickson Mine.—The Delaware and Hudson Company has sunk a shaft at the Dickson to a depth of 305 feet, and 50 feet more will reach their Clark vein workings. On this shaft a ventilating fan 20 feet diameter by 5 feet face, will be erected to ventilate the Clark vein workings. The two fans now in use will ventilate the Dunmore veins. Two thousand feet of road has been graded for an engine plane. The bore hole for the rope is down, and the engine to be used is already in position. The South East plane in the No. 4 Dunmore vein has been extended 700 feet during the year.

Von Storch Mine.—At the Von Storch mine a plane has been driven from the four "foot" vein to the five "foot" vein; its dimensions are as follows: 14 feet by 7 by 445 feet on a grade of 1 in 5, for the purpose of developing the latter named vein.

In the Fourteen "Foot," or Big vein, preparations are being made to install a rope haulage. The Clark and Big veins are connected by a rock tunnel. The new haulage system will take all the coal from the Clark vein pitch workings to the "foot" of the main slope. This system will be about 7,500 feet long. The engines are now in position.

Green Ridge Coal Company.

Green Ridge Slope.—A rock plane 10 feet by 6 feet, on a grade of 12 degrees, has been driven, connecting Nos. 1 and 2 Dunmore veins. An air shaft, 9 feet diameter, has been sunk from Middle Dunmore to the Bottom vein. The shaft will be used for ventilation and as an additional escape way for the men.

An electric hoist has been installed on the dip workings of the

bottom vein. Length of slope, 1,700 feet, grade, 4 degrees. A four-ton electric locomotive to haul coal 3,800 feet to the foot of main slope has been added during the year.

The Mt. Pleasant Coal Company.

The big shaft has been sunk from the Clark vein to the Second Dunmore, a distance of 135 feet, the shaft being 11x30. The Rider shaft has been sunk from the Clark to the Second Dunmore, distance 134 feet, size of shaft 11x24. A tunnel has been driven from the surface vein near the foot of the little outside shaft to the main hoisting shaft with the idea of footing all the surface coal directly in the big shaft; the tunnel is 7x9, and 100 feet long.

An electric motor, weighing eight tons, has been installed in the surface vein, and an electric pump of the Knowles design, with a capacity of fifty-two gallons per minute has been placed in the third counter of the surface vein.

In the breaker two new screens have been hung up and two screen rooms built. The old drum on the hoisting engine shaft has been taken off, and in its place there is a clutch drum of the latest design.

Pennsylvania Coal Company.

This company has introduced a number of automatic mine doors into their mines during the year. These doors are known as the "Champion" automatic mine doors, manufactured in Terre Haute, Ind.

John & J. J. Jermyn.

Jermyn No. 1 Mine.—A rock plane from the Dunmore No. 2 to the Clark vein has been made during the year 1899. This plane is 16 feet by 7 feet, and 185 feet long, on a grade of 12 degrees. Another similar plane connecting the veins named in another part of the mine was also made; its dimensions are 7 feet by 12 feet; pitch, 9 degrees; length, 360 feet.

An extensive rope haulage has been installed during the year. Its features are its heavy grades and curves of small radius. The cars are hauled a distance of 3,500 feet. The round trip is made in twelve minutes.

West Ridge Coal Company.

West Ridge Mine.—By order of the court the engines, boilers and tower were removed from the head of the main shaft. A pair of 16x10 inch second motion engines were erected in the Diamond vein to hoist through the main shaft from the China vein. The Diamond

workings are connected with the main slope. An air shaft and second opening was sunk from the Rock vein to connect with the China vein; its dimensions are 10x8. It is fitted with hoisting engines and carriage equipped according to law to hoist and lower men.

The Mine Foreman's Examination.

The examination of candidates for mine foreman and assistant mine foreman's certificates was held in the city hall, Scranton, Pa., July 18 and 19, 1899. The following named persons were recommended for certificates:

Mine Foremen.

Thomas E. James, Scranton.
James Hartshorn, Scranton.
William Hartshorn, Scranton.
D. T. Williams, Scranton.
M. T. Walsh, Scranton.
R. Harrison, Moosic.
T. G. Brown, Moosic.
F. MacKinder, Old Forge.
R. P. Thomas, Taylor.
D. M. Harris, Taylor.
Alex. Laird, Moosic.
Charles E. Robertson, Scranton.
F. White, Scranton.
C. Hamsworth, Scranton.

Assistant Foreman.

James W. Reese, Scranton.
Joseph King, Moosic.
Joseph John, Scranton.
B. Amos, Scranton.
R. N. Courtright, Scranton.
W. M. Howell, Scranton.
Charles Richards, Scranton.
George Hopkins, Scranton.
John Morgan, Scranton.
James Regan, Scranton.
A. McHale, Scranton.

Board of Examiners.

James Young, superintendent.
P. H. Salmon, miner.
J. R. Jones, miner.
H. O. Prytherch, District Mine Inspector.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Second Anthracite District for 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Del., Lack. and West. R. R. Co.				
Archbald,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Bellevue shaft,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Bellevue slope,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Brisbin,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Cayuga,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Sloan,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Central,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Continental,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Dodge,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Diamond,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Tripp shaft,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Tripp slope,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Tripp drift,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Hyde Park,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Manville,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Oxford washery,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Holden,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Hampton,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Pyne,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Taylor shaft,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Taylor drift,	Lackawanna,	Dela., Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Austin Coal Co.				
Austin tunnel,	Lackawanna,	Austin Coal Co.,	W. G. Robertson,	Scranton, Pa.
Delaware and Hudson Co.				
Dickson,	Lackawanna,	Delaware and Hudson Co.,	C. C. Rose,	Scranton, Pa.
Von Storch slope,	Lackawanna,	Delaware and Hudson Co.,	C. C. Rose,	Scranton, Pa.
Von Storch shaft,	Lackawanna,	Delaware and Hudson Co.,	C. C. Rose,	Scranton, Pa.
Manville,	Lackawanna,	Delaware and Hudson Co.,	C. C. Rose,	Scranton, Pa.
Scranton Coal Co.				
Pine Brook,	Lackawanna,	Scranton Coal Co.,	John R. Bryden,	Scranton, Pa.
Capouse,	Lackawanna,	Scranton Coal Co.,	John R. Bryden,	Scranton, Pa.
Mt. Pleasant Coal Co.				
Mt. Pleasant,	Lackawanna,	Mt. Pleasant Coal Co.,	James B. Neale,	Scranton, Pa.
Green Ridge Coal Co.				
Green Ridge slope,	Lackawanna,	Green Ridge Coal Co.,	William L. Connell,	Scranton, Pa.
Pennsylvania Coal Co.				
No. 5 shaft,	Lackawanna,	Pennsylvania Coal Company,	George B. Smith,	Dunmore, Pa.
Bunker Hill,	Lackawanna,	Pennsylvania Coal Company,	George B. Smith,	Dunmore, Pa.
Old Forge No. 1 shaft,	Lackawanna,	Pennsylvania Coal Company,	George B. Smith,	Dunmore, Pa.
Old Forge No. 2 shaft,	Lackawanna,	Pennsylvania Coal Company,	George B. Smith,	Dunmore, Pa.

William Connell & Co.				
Meadow Brook shaft,	Lackawanna,	William Connell & Co.,	Col. E. H. Ripple,	Scranton, Pa.
Meadow Brook tunnel,	Lackawanna,	William Connell & Co.,	Col. E. H. Ripple,	Scranton, Pa.
National shaft,	Lackawanna,	William Connell & Co.,	Col. E. H. Ripple,	Scranton, Pa.
The Connell Coal Co.				
William A.,	Lackawanna,	The Connell Coal Co.,	S. T. Jones,	Scranton, Pa.
Lawrence shaft,	Lackawanna,	The Connell Coal Co.,	S. T. Jones,	Scranton, Pa.
Lawrence upper drift,	Lackawanna,	The Connell Coal Co.,	S. T. Jones,	Scranton, Pa.
Lawrence lower drift,	Lackawanna,	The Connell Coal Co.,	S. T. Jones,	Scranton, Pa.
Greenwood Coal Co., Limited.				
Greenwood No. 1 shaft,	Lackawanna,	Greenwood Coal Co., Limited,	John Lovering,	Scranton, Pa.
Greenwood New No. 1 shaft,	Lackawanna,	Greenwood Coal Co., Limited,	John Lovering,	Scranton, Pa.
Greenwood No. 2 shaft,	Lackawanna,	Greenwood Coal Co., Limited,	John Lovering,	Scranton, Pa.
Greenwood drift,	Lackawanna,	Greenwood Coal Co., Limited,	John Lovering,	Scranton, Pa.
Greenwood No. 5 drift,	Lackawanna,	Greenwood Coal Co., Limited,	John Lovering,	Scranton, Pa.
Greenwood No. 8 drift,	Lackawanna,	Greenwood Coal Co., Limited,	John Lovering,	Scranton, Pa.
Greenwood No. 12 drift,	Lackawanna,	Greenwood Coal Co., Limited,	John Lovering,	Scranton, Pa.
Greenwood washery,	Lackawanna,	Brooks Coal Co.,	John Lovering,	Scranton, Pa.
John & J. J. Jermyn.				
Jermyn No. 1,	Lackawanna,	John & J. J. Jermyn,	J. J. Jermyn,	Scranton, Pa.
Jermyn No. 2,	Lackawanna,	John & J. J. Jermyn,	J. J. Jermyn,	Scranton, Pa.
Elliott, McClure & Co.				
Sibley,	Lackawanna,	Elliott, McClure & Co.,	Jacob C. McClure,	Scranton, Pa.
West Ridge Coal Co.				
West Ridge,	Lackawanna,	West Ridge Coal Co.,	W. H. Storrs,	Scranton, Pa.
A. D. & F. M. Spencer.				
Spencer's shaft,	Lackawanna,	A. D. & F. M. Spencer,	A. D. Spencer,	Scranton, Pa.
Spencer's washery,	Lackawanna,	A. D. & F. M. Spencer,	A. D. Spencer,	Scranton, Pa.
Nay Aug Coal Co.				
Nay Aug slope,	Lackawanna,	Nay Aug Coal Co.,	J. D. Caryl,	Scranton, Pa.
Gibbons Coal Co.				
Gibbons,	Lackawanna,	Gibbons Coal Co.,	Michael Gibbons,	Minooka, Pa.
North American Coal Co.				
National washery,	Lackawanna,	North American Coal Co.,	A. R. Anthony,	Scranton, Pa.
Meadow Brook washery,	Lackawanna,	North American Coal Co.,	A. R. Anthony,	Scranton, Pa.
Bowen Coal Co.				
Bowen washery,	Lackawanna,	Bowen Coal Co.,	W. H. Davies,	Scranton, Pa.
Bull's Head Coal Co.				
Bull's Head,	Lackawanna,	Bull's Head Coal Co.,	E. J. Hughes,	Dunmore, Pa.
Carbon Coal Co.				
Carbon washery,	Lackawanna,	Carbon Coal Co.,	C. R. Acker,	Scranton, Pa.

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Del., Lack. and West. R. R. Co.					
Archbald,	T. J. Williams,	Scranton, Pa.,		Henry E. Harris,	Wm. B. Thornton.
Bellevue shaft,	E. J. Evans,	Scranton, Pa.,		John Hale,	Mike J. Mackin.
Bellevue slope,	E. J. Evans,	Scranton, Pa.,		David Z. Davis,	Mike J. Mackin.
Brisbin,	R. A. Phillips,	Scranton, Pa.,		Frank Zimmerman,	E. H. Evans.
Cayuga,	R. A. Phillips,	Scranton, Pa.,		H. G. Davies,	Giles Decker.
Sloan,	T. J. Williams,	Scranton, Pa.,		Llewelyn Evans,	Fred. Peters.
Central,	T. J. Williams,	Scranton, Pa.,		Lewis Roberts,	Fred. Peters.
Continental,	T. J. Williams,	Scranton, Pa.,		Richard H. Williams,	James T. Green.
Dodge,	E. J. Evans,	Scranton, Pa.,		Edward James,	Samuel Ives.
Diamond,	R. A. Phillips,	Scranton, Pa.,		James A. Evans,	Wm. P. Morgan.
Tripp shaft,	R. A. Phillips,	Scranton, Pa.,		James A. Evans,	Wm. P. Morgan.
Tripp slope,	R. A. Phillips,	Scranton, Pa.,		Evan P. Davies,	Wm. P. Morgan.
Tripp drift,	R. A. Phillips,	Scranton, Pa.,		Evan P. Davies,	Wm. P. Morgan.
Hyde Park,	T. J. Williams,	Scranton, Pa.,		David W. Moser,	Geo. A. Watkins.
Manville,	R. A. Phillips,	Scranton, Pa.,		Joseph D. Lloyd,	B. Atherton.
Oxford washery,	E. J. Evans,	Scranton, Pa.,		H. P. Davies,	John Fern.
Holden,	E. J. Evans,	Scranton, Pa.,		Wm. Harris,	Wm. B. Owen.
Hampton,	T. J. Williams,	Scranton, Pa.,		Elijah Dagga	John H. Hoffman.
Pyne,	T. J. Williams,	Scranton, Pa.,		Wm. J. Thomas,	Adam Rheinhardt.
Taylor shaft,	E. J. Evans,	Scranton, Pa.,		John R. Johns,	James Curt.
Taylor drift,	E. J. Evans,	Scranton, Pa.,		John R. Johns,	James Curt.
Austin Coal Co.					
Austin tunnel,	John H. Robertson,	Old Forge, Pa.,		John Williams,	Nelson D. Mowery.
Delaware and Hudson Co.					
Dickson,				Alex. Aukman and S. Oakley.	Wm. McDowell.
Von Storch slope,				Henry Birbeck,	Charles W. Ziegler.
Von Storch shaft,				Henry Birbeck,	Charles W. Ziegler.
Manville,				Joseph D. Lloyd,	B. Atherton.
Scranton Coal Co.					
Pine Brook,	John Van Bergen,	Scranton, Pa.,		Wm. H. Davis,	Thomas Bray.
Capouse,	John Van Bergen,	Scranton, Pa.,		Joseph Reese,	John Cumings.
Mt. Pleasant Coal Co					
Mt. Pleasant,				Wm. R. Wilson,	A. Robinson.
Green Ridge Coal Co.					
Green Ridge slope,				John Ambrose,	Thos. McLaughlin.

Pennsylvania Coal Co.					
No. 5 shaft,	Alex. Bryden,	Dunmore, Pa.,	James Young,	Thos. R. Young,	Coe Finch.
Bunker Hill,	Alex. Bryden,	Dunmore, Pa.,	James Young.		
Old Forge No. 1 shaft,	Alex. Bryden,	Dunmore, Pa.,	James Young,	Theodore Hogan,	Wm. H. Werts.
Old Forge No. 2 shaft,	Alex. Bryden,	Dunmore, Pa.,	James Young,	Alex. Allen,	Wm. H. Werts.
William Connell & Co.					
Meadow Brook shaft,	S. T. Jones,	Scranton, Pa.,		David A. Davies,	Malachi Coyne.
Meadow Brook tunnel,	S. T. Jones,	Scranton, Pa.,		David A. Davies,	Malachi Coyne.
National shaft,	S. T. Jones,	Scranton, Pa.,		David W. Griffiths,	Malachi Coyne.
The Connell Coal Co.					
William A.,				A. H. Hale,	James Melvin.
Lawrence shaft,				Rt. McCutcheon,	James Melvin.
Lawrence upper drift,				Rt. McCutcheon,	James Melvin.
Lawrence lower drift,				Rt. McCutcheon,	James Melvin.
Greenwood Coal Co., Limited.					
Greenwood No. 1 shaft,				Thomas F. Jones,	T. J. McCarty.
Greenwood New No. 1 shaft,				Thomas F. Jones,	T. J. McCarty.
Greenwood No. 2 shaft,				David A. Jones,	T. R. Lovering.
Greenwood drift,				David A. Jones,	T. R. Lovering.
Greenwood No. 5 drift,				Thomas F. Jones,	T. J. McCarty.
Greenwood No. 8 drift,				Thomas F. Jones,	T. J. McCarty.
Greenwood No. 12 drift,				Thomas F. Jones,	T. R. Lovering.
Greenwood washery,					T. R. Lovering.
John & J. J. Jermyn.					
Jermyn No. 1,	E. B. Jermyn,	Scranton, Pa.,		Thomas Lewis,	Joseph Merritt.
Jermyn No. 2,	E. B. Jermyn,	Scranton, Pa.,		Henry Evans,	George Powell.
Elliott, McClure & Co.					
Sibley,				Thomas P. Cosgrove,	Pat. F. Coyne.
West Ridge Coal Co.					
West Ridge,			W. E. Allen,	Simpson Wharton,	Jacob Berry.
A. D. & F. M. Spencer.					
Spencer's shaft,	H. M. Spencer,	Dunmore, Pa.,		Pat. H. Mongan,	Byron Brady and J. Ellis
Spencer's washery,	H. M. Spencer,	Dunmore, Pa.,			Byron Brady and J. Ellis.
Nay Aug Coal Co.					
Nay Aug slope,				J. J. Gibbons,	C. H. Weber.
Gibbons Coal Co.					
Gibbons,				Howell Harris,	Michael Gibbons.
North American Coal Co.					
National washery,	C. B. Sharkey,	Scranton, Pa.,			Thomas Johns.
Meadow Brook washery,	C. B. Sharkey,	Scranton, Pa.,			J. J. Richards.
Bowen Coal Co.					
Bowen washery,					J. T. Perry.

TABLE I— Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Bull's Head Coal Co.					
Bull's Head,				E. J. Hughes.	
Carbon Coal Co.					
Carbon washery,					C. R. Acker.

TABLE II—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Second Anthracite District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Delaware, Lacka. and Western R. R. Co.												
Archbald,	Lackawanna,	250,613	10,480	1,027	262,120	196	532	1	9	8,521	288	65
Bellevue,	Lackawanna,	248,682	24,828	9,698	283,208	180	650	1	5	9,085	700	88
Brisbin,	Lackawanna,	250,755	12,045	2,363	265,163	202	509	2	3	6,837	325	58
Cayuga,	Lackawanna,	228,579	18,000	5,381	251,960	205	584	4	11	7,906	2,100	70
Sloan and Central,	Lackawanna,	3,610	827	7	4,444	6	234	.....	1	127	.....	17
Continental,	Lackawanna,	198,263	6,450	2,606	207,319	199	505	.....	3	3,135	450	76
Dodge,	Lackawanna,	228,652	11,500	2,409	242,561	210	468	4	15	7,957	210	73
Diamond,	Lackawanna,	285,425	18,000	4,837	308,262	209	633	.....	9	9,876	1,350	78
Hyde Park,	Lackawanna,	152,468	4,740	6,296	163,504	162	468	1	6	5,867	1,075	70
Manville,	Lackawanna,	113,977	13,500	2,005	129,482	180	444	.....	4	8,329	7,875	48
Oxford washery,	Lackawanna,	18,667	12,977	5,879	37,523	223	44	.....	1	17	225	10
Holden,	Lackawanna,	58,999	8,020	705	67,734	122	143	.....	1	2,772	1,402	18
Hampton,	Lackawanna,	188,643	8,293	3,355	200,291	204	440	1	7	6,599	.....	62
Pyne,	Lackawanna,	374,101	12,000	2,387	388,488	192	669	4	.....	10,234	1,250	96
Taylor,	Lackawanna,	249,833	9,104	5,694	264,631	180	517	.....	4	7,014	500	73
Totals and averages,		2,851,267	170,774	54,649	3,076,690	184	6,940	18	79	97,276	17,750	932
Austin Coal Co.												
Austin tunnel,	Lackawanna,	50,532	4,617	1,063	56,212	140	168	2	.....	1,797	3,118	19
Delaware and Hudson Co.												
Dickson,	Lackawanna,	187,433	21,892	5,097	214,422	194	600	.....	7	10,828	9,169	71
Von Storch,	Lackawanna,	172,578	21,668	3,422	197,668	160	614	3	1	6,897	4,738	80
Manville,*	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
		360,011	43,560	8,519	412,090	182	1,214	3	8	17,725	13,907	151

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Scranton Coal Co.												
Capouse,	Lackawanna,	360,500	14,200	5,281	379,981	234	617	3	7	12,200	3,200	83
Pine Brook,	Lackawanna,	265,122	15,500	14,296	294,918	195	671	2	7	14,625	10,900	77
Totals and averages,		625,622	29,700	19,577	674,899	198	1,288	5	14	26,825	14,100	160
Lackawanna Iron and Steel Co.												
Capouse,	Lackawanna,	25,668	.....	997	28,665	23	†	†	†	873	89	.....
Pine Brook,	Lackawanna,	27,248	.....	3,905	31,153	22	†	†	†	1,790	1,591	.....
Totals and averages,		54,886	.....	4,902	59,818	22.5	.....	.....	.....	2,663	1,680	.....
Mt. Pleasant Coal Co.												
Mt. Pleasant,	Lackawanna,	182,657	16,425	76,546	275,631	224	478	2	14	11,718	6,525	35
Green Ridge Coal Co												
Green Ridge slope,	Lackawanna,	106,600	.....	16,067	122,667	147	475	2	5	6,543	2,500	54
Pennsylvania Coal Co.												
Pennsylvania No. 5,	Lackawanna,	151,061	4,547	.....	155,608	181	359	2	4	6,628	2,363	35
Old Forge,	Lackawanna,	249,431	8,471	.....	257,902	183	578	3	7	8,762	10,745	61
Totals and averages,		400,492	13,018	.....	413,510	182	937	5	11	15,390	13,108	96
William Connell & Co.												
National,	Lackawanna,	111,867	9,500	8,810	130,175	166	425	1	3	8,142	10,850	45
The Connell Coal Co.												
William A.,	Lackawanna,	242,248	18,080	5,906	266,154	156	587	1	6	8,785	6,700	65

Greenwood Coal Co., Limited.												
Greenwood No. 1,	Lackawanna,	138,971	11,000	2,288	152,259	138	477	1	3	9,209	6,500	91
Greenwood No. 2,	Lackawanna,	56,668	4,500	.....	61,168	111	244	1	1	3,861	3,750	37
Totals and averages,		195,639	15,500	2,288	213,427	128+	721	2	4	13,070	10,250	128
Brooks Coal Co.												
Washery,		41,530	1,500	.....	43,030	196	22	.....	.....	.....	.....	2
John & J. J. Jermyn.												
Jermyn No. 1,	Lackawanna,	145,860	15,976	4,261	166,097	148	453	2	6	7,071	875	30
Jermyn No. 2,	Lackawanna,	194,292	7,300	.....	201,592	155	489	1	3	6,872	3,800	37
Totals and averages,		340,152	23,276	4,261	367,689	152	933	3	9	13,943	4,675	76
Elliott, McClure & Co.												
Sibley,	Lackawanna,	105,943	.....	1,557	107,500	168	349	.....	1	3,565	3,841	42
West Ridge Coal Co.												
West Ridge slope,	Lackawanna,	79,673	5,475	18,461	103,549	137	318	.....	3	5,191	2,785	44
A. D. & F. M. Spencer.												
Spencer's,	Lackawanna,	75,195	3,500	2,888	81,583	110	167	1	1	1,950	290	28
Nay Aug Coal Co.												
Nay Aug slope,	Lackawanna,	38,967	2,607	.....	77,973	134	145	1	2	1,328	925	21
Washery,	Lackawanna,	36,399										
Gibbons Coal Co.												
Gibbons mine,	Lackawanna,	.....	700	8,279	8,979	160	19	.....	.....	273	.....	4
North American Coal Co.												
National washery,	Lackawanna,	90,311	15	.....	90,326	163	30	2	.....	.....	.....	2
Meadow Brook washery,	Lackawanna,	80,246	10	3,435	83,691	278	20	.....	.....	.....	.....	2
Totals and averages,		170,557	25	3,435	174,017	203.5	50	2	.....	.....	.....	4
Bowen Coal Co.												
Washery,	Lackawanna,	55,600	.....	.....	55,600	122	22	1	1	.....	.....	2
Bull's Head Coal Co.												
Bull's Head,	Lackawanna,	43,065	2,572	2,510	48,147	243	129	.....	.....	1,701	972	23
Carbon Coal Co.												
Carbon washery,	Lackawanna,	4,818	300	.....	5,118	47	12	.....	.....	.....	.....	.....
Totals and averages,		6,173,718	361,049	234,691	6,774,458	175	15,419	49	159	237,891	113,829	1,933

[1]See Delaware, Lackawanna and Western Railroad Company.

[2]See above; returned by the Scranton Coal Company.

Note. Fractions of a ton and of a day have been omitted on this sheet.

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
Del., Lacka. and Western R. R. Co.																
Archbald,	Lackawanna,	14	306	.....	.....	306	1	.....	.....	7	326	1	939	738	.....	.....
Bellevue,	Lackawanna,	24	720	2	250	970	1	.....	2	13	823	3	3,823	2,670	1	.....
Brisbin,	Lackawanna,	27	440	4	500	940	1	.....	.....	7	694	4	4,311	1,190	.....	.....
Cayuga,	Lackawanna,	24	595	.....	.....	595	1	.....	2	7	1,219	3	1,783	1,307	1	.....
Sloan and Central,	Lackawanna,	49	980	.....	.....	980	.....	.....	.....	3	1,307	3	794	529	.....	.....
Continental,	Lackawanna,	15	330	.....	.....	330	1	.....	.....	17	999	2	737	737	.....	.....
Dodge,	Lackawanna,	21	615	2	250	865	2	.....	.....	10	549	1	244	153	.....	.....
Diamond,	Lackawanna,	43	912	1	135	1,047	4	.....	.....	13	1,359	7	3,499	2,510	.....	.....
Hyde Park,	Lackawanna,	12	352	.....	.....	352	.....	.....	.....	6	358	.....	.....	.....	.....	.....
Manville,	Lackawanna,	18	306	.....	.....	306	.....	.....	.....	12	659	8	1,689	240	.....	.....
Oxford washery,	Lackawanna,	19	437	.....	.....	437	.....	.....	.....	4	204	2	860	691	.....	.....
Holden,	Lackawanna,	12	288	.....	.....	288	.....	.....	.....	6	544	1	334	223	.....	.....
Hampton,	Lackawanna,	13	520	3	60	580	.....	.....	.....	11	570	3	2,596	1,512	.....	.....
Pyne,	Lackawanna,	18	360	.....	.....	360	1	.....	.....	8	730	1	882	800	.....	.....
Taylor,	Lackawanna,	10	200	3	450	650	1	.....	.....	6	770	3	4,269	2,034	.....	.....
Totals and averages,		319	7,361	15	1,645	9,006	13	.....	4	130	10,111	40	26,040	15,042	2	.....
Austin Coal Co.																
Austin tunnel,	Lackawanna,	7	140	1	100	240	1	.....	.....	16	485	1	400	100	1	2
Delaware and Hudson Co.																
Dickson	Lackawanna,	18	360	2	260	620	.....	.....	.....	18	1,330	1	960	480	.....	.....
Von Storch,	Lackawanna,	22	440	.....	.....	440	.....	.....	.....	11	710	2	1,800	1,000	.....	.....
Manville,*	Lackawanna,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals and averages,		40	800	2	260	1,060	.....	.....	.....	29	2,040	3	2,760	1,480	.....	.....

Scranton Coal Co.																		
Capouse,	Lackawanna,				4	500	500	1			7	970	1	1,200	1,000		
Pine Brook,	Lackawanna,				5	650	650	1			7	731	1	1,100	1,000		
Totals and averages,					9	1,150	1,150	2			14	1,701	2	2,300	2,000		
Lackawanna Iron and Steel Co.																		
Capouse,	Lackawanna,	†																
Pine Brook,	Lackawanna,	†																
Totals and averages,		†																
Mt. Pleasant Coal Co.																		
Mt. Pleasant,	Lackawanna,	12	189	3	210	390	1		2	12	766	1	350	200	1	1		
Green Ridge Coal Co.																		
Green Ridge slope,	Lackawanna,	21	605			605			2	8	850	4	500	300	1			
Pennsylvania Coal Co.																		
Pennsylvania No. 5,	Lackawanna,			3	450	450				14	420	1	660	220				
Old Forge,	Lackawanna,	5	200	7	1,030	1,230				21	847	3	1,460	1,166				
Totals and averages,		5	200	10	1,480	1,680	2			35	1,267	4	2,120	1,386				
William Connell & Co.																		
National,	Lackawanna,	22	550	2	150	700	1			8	414	3	2,400	1,600				
The Connell Coal Co.																		
William A.,	Lackawanna,	24	720	1	250	970				18	1,644	2	1,000	600	1			
Greenwood Coal Co., Limited.																		
Greenwood No 1,	Lackawanna,	16	500			500	1			8	559	3	1	,825	1,825			
Greenwood No. 2,	Lackawanna,	9	300			300				4	254	3	488		488			
Totals and averages,		25	800			800	1			12	813	8	2,313		2,313			
Brooks Coal Co.																		
Washery,	Lackawanna,									3	50	1	112		112			
John & J. J. Jermyn.																		
Jermyn No. 1,	Lackawanna,	6	120	5	750	870	1			12	550	3	1,000		600			
Jermyn No. 2,	Lackawanna,	15	300			300				11	550	1	600		300			
Totals and averages,		21	420	5	750	1,170	1			23	1,100	4	1,600		900			
Elliott, McClure & Co.																		
Sibley,	Lackawanna,	10		2	250					8		4						
West Ridge Coal Co.																		
West Ridge slope,	Lackawanna,			5	400	400				15	935	3	490		200			
A. D. & F. M. Spencer.																		
Spencer's,	Lackawanna,	11		1						10	435	1	230		230			

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
Nay Aug Coal Co.																
Nay Aug slope	Lackawanna	.....	.....	3	180	180	.....	.....	.....	6	218	.....	.....	.....	.....	.....
Washery	Lackawanna															
Gibbons Coal Co.																
Gibbon's mine	Lackawanna	1	30	.....	.....	30	.....	.....	.....	1	20	.....	.....	.....	.....	.....
North American Coal Co.																
National washery	Lackawanna	.....	.....	3	450	450	.....	.....	.....	3	180	2	600	.....	.....	.....
Meadow Brook washery	Lackawanna	.....	.....	4	420	420	.....	.....	.....	2	140	2	600	.....	.....	.....
Totals and averages		.....	.....	7	870	870	.....	.....	.....	5	320	4	1,200	.....	.....	.....
Bowen Coal Co.																
Washery	Lackawanna	.....	.....	2	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....
Bull's Head Coal Co.																
Bull's Head	Lackawanna	2	250	.....	.....	250	.....	.....	.....	4	216	.....	.....	.....	.....	.....
Carbon Coal Co.																
Carbon washery	Lackawanna	.....	.....	2	300	300	.....	.....	.....	2	.....	.....	.....	.....	.....	.....
Totals and averages		520	12,056	70	7,935	19,801	22	.....	8	360	22,435	87	43,815	26,463	6	5

*See Delaware, Lackawanna and Western Railroad Company.

†See above; returned by the Scranton Coal Company.

Note.—Fractions of a ton and of a day have been omitted on this sheet.

TABLE III—Showing the number of each class of employes at each colliery in the Second Anthracite District during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers, and clerks.	All other employes.	Total outside.	
Dela., Lacka. and Western R. R. Co.																
Archbald,	1	3	148	130	50	12	30	374	1	4	7	106	2	38	158	532
Bellevue,	2	4	160	163	62	16	57	464	1	5	11	105	2	62	186	650
Brisbin,	2	3	132	135	49	9	43	373	1	4	13	65	2	51	136	509
Cayuga,	1	4	154	154	63	13	41	430	1	6	9	78	1	59	154	584
Sloan and Central,	2	3	54	54	25	11	43	192	1	4	18	64	2	53	142	334
Continental,	1	2	114	114	34	14	69	348	1	6	7	93	2	48	157	505
Dodge,	2	3	124	124	48	5	47	352	1	4	11	52	1	47	116	468
Diamond,	2	5	169	169	57	17	57	476	1	7	22	63	2	62	157	633
Hyde Park,	1	2	117	111	59	17	34	341	1	4	8	69	2	43	127	468
Manville,	1	4	107	107	50	24	34	327	1	5	11	68	.....	32	117	444
Oxford washery,	1	1	.....	.....	1	.....	17	20	1	3	6	.....	1	13	24	44
Holden,	1	1	27	27	8	3	14	81	1	2	5	30	1	23	62	143
Hampton,	2	2	100	101	35	10	27	277	1	4	7	102	1	48	163	440
Pyne,	2	2	174	178	56	9	55	476	1	6	9	124	2	51	193	669
Taylor,	1	3	142	135	38	15	38	372	1	4	9	83	3	45	145	517
Totals,	22	41	1,722	1,702	635	175	606	4,903	15	68	153	1,102	24	675	2,037	6,940
Austin Coal Co.																
Austin tunnel,	1	1	40	41	11	.....	21	115	1	5	9	21	2	15	53	168
Delaware and Hudson Co.																
Dickson,	2	5	160	160	80	17	52	476	1	3	13	51	.....	56	124	600
Von Storch,	1	3	152	152	82	18	74	482	1	11	11	42	3	64	132	614
Manville,*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals,	3	8	312	312	162	35	126	958	2	14	24	93	3	120	256	1,214

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other empls.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers, and clerks.	All other employes.	Total outside.	
Scranton Coal Co.																
Capouse,	1	2	157	167	72	21	48	468	1	8	9	87	3	41	149	617
Pine Brook,	1	4	167	175	66	36	76	525	1	12	8	75	3	47	146	671
Totals,	2	6	324	342	138	57	124	993	2	20	17	162	6	88	295	1,288
Lackawanna Iron and Steel Co.																
Capouse,																
Pine Brook,																
Totals,																
Mt. Pleasant Coal Co.																
Mt. Pleasant,	3	3	110	110	52	12	33	323	1	8	7	82	7	30	155	478
Green Ridge Coal Co.																
Green Ridge slope,	1	2	127	130	69	16	28	373	1	5	19	47	2	37	102	475
Pennsylvania Coal Co.																
Pennsylvania No. 5,	1	2	114	80	41	7	15	260	1	3	8	63	1	23	99	359
Old Forge,	3	5	191	161	61	13	19	453	1	4	16	71	1	52	145	598
Totals,	4	7	305	241	102	20	34	713	2	7	24	134	2	75	244	957
William Connell & Co.																
National,	2	2	131	92	46	10	25	308	1	8	10	65	3	30	117	425

The Connell Coal Co.																
William A.,	2	1	225	90	85	8	.....	411	1	7	11	100	5	52	176	587
Greenwood Coal Co.																
Greenwood No. 1,	2	2	130	117	38	27	22	338	1	8	10	59	2	59	139	477
Greenwood No. 2,	1	1	65	60	19	12	12	170	1	4	4	26	1	38	74	244
Totals,	3	3	195	177	57	39	34	508	2	12	14	85	3	97	213	721
Brooks Coal Co.																
Washery,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	3	.....	18	22	22
John & J. J. Jermyn.																
Jermyn No. 1,	1	2	160	55	60	8	17	303	1	5	11	84	4	45	150	453
Jermyn No. 2,	1	2	168	78	55	13	46	363	1	4	9	76	2	25	117	480
Totals,	2	4	328	133	115	21	63	666	2	9	20	160	6	70	267	933
Elliott, McClure & Co.																
Sibley,	1	1	75	45	34	2	26	184	1	5	6	107	2	44	165	349
West Ridge Coal Co.																
West Ridge slope,	1	2	80	65	32	18	25	223	1	6	5	49	3	31	95	318
A. D. & T. M. Spencer.																
Spencer's,	1	1	15	45	20	1	15	98	2	2	7	18	2	38	69	167
Nay Aug Coal Co.																
Nay Aug slope,	1	.....	32	32	15	2	9	91	1	4	6	12	2	29	54	145
Gibbons Coal Co.																
Gibbons,	1	.....	5	5	2	.....	.....	13	1	.....	.....	5	.....	.....	6	19
North American Coal Co.																
National washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	5	2	19	30	30
Meadow Brook washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	4	2	10	20	20
Totals,	.....	.....	.....	.....	.....	.....	.....	.....	2	2	4	9	4	29	50	50
Bowen Coal Co.																
Washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	1	2	2	1	15	22	22
Bull's Head Coal Co.																
Bull's Head,	1	.....	40	33	10	5	4	93	1	2	2	16	2	13	36	129
Carbon Coal Co.																
Carbon washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	3	1	.....	7	12	12
Totals,	51	82	4,066	3,595	1,585	421	1,173	10,973	41	185	335	2,273	79	1,533	4,446	15,419

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Dela., Lacka. and Western R. R. Co.													
Archbald,	11.5	12.9	6.4	12.0	14.0	18.5	20.7	19.5	20.4	22.4	24.9	13.0	196.2
Bellevue,	12.9	12.9	5.7	.....	7.0	17.1	20.8	19.1	19.9	21.1	25.2	18.7	180.4
Brisbin,	13.6	14.1	5.6	11.5	15.7	19.2	19.8	20.6	19.3	23	22.9	17.1	202.4
Cayuga,	14.4	13.6	7.2	12.0	14.1	18.9	20.7	20.8	21.2	22.4	24.8	15.3	205.1
Sloan and Central,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6.1	6.1
Continental,	10.9	12.9	7.2	11.2	13.6	16.8	20.7	19.1	20.1	23.2	24.5	19.2	199.4
Dodge,	15.2	13.6	9.6	10.0	13.4	18.3	19.0	19.2	20.1	22.4	22.6	17.2	200.6
Diamond,	13.6	15.3	9.4	9.5	15.7	17.9	20.6	20.7	19.3	23.2	24.4	19.4	209.1
Hyde Park,	15.2	13.8	9.6	11.2	13.2	17.6	20.8	1.5	.....	16.5	25.2	17.3	162.0
Manville,	5.0	14.5	13.25	11.25	12	19	14.0	19.25	15.5	21.0	17.75	18.0	180.5
Oxford washery,	35.0	36.3	42.7	37 3	33.5	29.0	19.6	7	.....	.....	.....	.....	233.9
Holden,	13.2	11.8	13.8	13.2	14.4	12.8	8.3	7.6	7.0	9.9	10.2	10.3	122.0
Hampton,	15.2	13.7	8.0	11.2	14.4	18.4	20.8	19.0	20.8	21.6	25.3	16.3	204.7
Pyne,	6.4	12.5	9.6	13.3	14.4	17.0	20.0	19.5	15.9	23.6	24.1	15.9	192.5
Taylor,	12.0	12.6	7.6	11.2	14.1	17.8	19.0	10.0	16.6	21.4	21.6	16.1	180.0
Austin Coal Co.													
Austin tunnel,	11.8	9.8	10.6	7.9	10.6	11.7	12.6	11.9	11.4	14.3	13.3	14.4	140.3
Delaware and Hudson Co.													
Dickson,	20.0	18.25	12.75	10.75	5.25	16.75	13.75	17.75	16.50	19.75	21.75	21.0	194.25
Von Storch,	.....	.....	.....	13.75	18.0	19.25	15.25	19	17	21	19	18.5	160.75
Manville,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Scranton Coal Co.													
Capouse,	.....	7.8	21.8	21.9	23.8	22.8	21.9	24.2	22.5	22.6	23.0	22.3	234.6
Pine Brook,	.....	6	14.3	14	15.3	14.8	14.5	15.8	15.4	17.6	19.7	18.1	165.5
Lackawanna Iron and Steel Co.													
Capouse,†	14.9	7.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	22.8
Pine Brook,†	15.5	7.9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.4
Mt. Pleasant Coal Co.													
Mt. Pleasant,	18.6	17.75	15.9	17.0	18.6	21.25	21.1	18.4	17.5	19.6	21.6	18	224.85
Green Ridge Coal Co.													
Green Ridge slope,	13.6	10.3	12.9	9.4	9	12.2	12.4	13.0	13.2	14.4	14.3	13.2	147.9
Pennsylvania Coal Co.													
Pennsylvania No. 5,	12.75	12.75	13.25	11.25	12.75	17.75	18.25	16.5	15.75	18.0	17.25	15.0	181.25
Old Forge,	16	8.25	12.75	11.25	16.50	16.0	17.75	17.25	14.75	16.25	18.5	18.5	183.75
William Connell & Co.													
National,	13.85	13.15	10.6	10.5	12.75	15.1	14.8	13.8	15.45	16.1	16.2	13.8	166.1
The Connell Coal Co.													
William A.,	15.6	12.6	11.6	11.7	13.1	9.2	10.8	29.8	20.0	19.7	17.2	13.9	176.1
Greenwood Coal Co.													
Greenwood No. 1,	12.1	7.9	10.8	7.8	8.0	9.5	13.7	11.2	14.1	15.1	13.3	12.3	138.3
Greenwood No. 2,	9.6	8.0	8.7	6.6	7.2	8.9	10.4	10.2	10.6	11.3	10.2	10.5	111.3
Brooks Coal Co.													
Washery,	12.6	14.7	23.6	20.3	25.3	14.3	14.6	23.8	22.1	6.1	8.9	9.8	19.61
John & J. J. Jermyn.													
Jermyn No. 1,	11.7	11.8	9.2	8.5	13.9	14.7	12.6	17.7	15.3	7.4	10.2	15.7	148.7
Jermyn No. 2,	15.8	10.2	12.9	10.1	9.3	15.6	15.9	17.1	18.2	7.2	7.3	15.8	155.4
Elliott, McClure & Co.													
Sibley,	13.85	11.9	13	10.4	13.4	14.2	14.7	13.7	14.75	16.6	15.85	16.05	168.4
West Ridge Coal Co.													
West Ridge slope,	10.9	10.4	9.8	8.5	10.1	11.3	11.3	12.5	11.9	12.1	14.3	14.6	137.7
A. D. & T. M. Spencer.													
Spencer's,	9.7	8.65	9.8	7.0	7.5	7.4	9.35	9.0	9.65	11.75	11.75	9.7	110.65
Nay Aug Coal Co.													
Nay Aug slope,	.....	8	15.25	6.75	5.5	12.25	17.5	13.25	11.5	19	18.25	11.75	134.6
Gibbons Coal Co.													
Gibbons,	16	14	15	12	10	8	7	8	10	16	21	23	160.6
North American Coal Co.													
National washery,	.....	.....	.....	.....	.....	22	23	23	24	26	26	19	163.0
Meadow Brook washery,	23	19	26	23	24	19	24	21	24	25	26	24	278.0

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Bowen Coal Co. Washery,	7	9	15	14	16	12	7	9	7	3	7	11	122
Bull's Head Coal Co. Bull's Head,	25	23	21.5	19.5	20	17	18.5	25	22	24	20	16	247
Carbon Coal Co. Carbon washery,	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	20	24	57

*See Delaware, Lackawanna and Western Railroad Company.
†See Scranton Coal Company.

TABLE IV—List of fatal accidents that occurred in and about the mines of the Second Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 3,	Thomas Reed,	Miner,	32	S.	....	....	Von Storch slope,	Lackawanna,	Reed was injured November 2, 1898, by a fall of roof at face of chamber in "Four-Foot" vein; the accident was investigated at that time and returned as non-fatal. The victim died from the injuries on January 3.
3,	William Kendall,	Miner,	40	M.	1	1	Hampton,	Lackawanna,	Kendall was engaged in mining out coal from the bottom bench of the vein when a piece of the overhanging top coal fell on him; he died on the same day.
5,	John Mulderig,	Laborer,	36	M.	1	8	Greenwood New No. 1 shaft.	Lackawanna,	Mulderig and his miner were working a chamber in the top or surface vein. A shot had been fired in the bottom bench, leaving a large piece of the top coal hanging. The men claimed that they had examined this top coal and concluded it was safe. They continued working under it; it fell in a short time after, striking Mulderig with fatal results.
5,	William McHale,	Carpenter outside,	22	S.	....	....	Cayuga,	Lackawanna,	McHale was engaged on the day of the accident tending the head of the shaft at the surface landing, sending up pea coal cars into the breaker; he crossed the shaft, through the carriage, to converse with the engine driver; as he was returning to the shaft again, he opened the shaft gate and walked into the other compartment; he fell to the bottom and met instant death.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 10,	William Pry, ...	Footman, ...	33	S.	....	....	Bellevue shaft, ...	Lackawanna, ..	The mine was not in operation. Pry, with others, was working, clearing roads. His father had charge of the gang. William Pry, the victim of the accident, and another man were working at a drain on the left side of the new tunnel from the Clark vein to the New County vein. A brattice prop stood in Pry's way; he knocked it out, when a slab of rock, which was supported by the prop, fell on him, inflicting injuries from which he died January 16.
24,	James Sullivan, ...	Outside loader, ...	20	S.	....	....	Bowen washery, ...	Lackawanna, ..	Sullivan was working on the night shift when the accident occurred; his regular work was loading cars, but on the night in question he was engaged wheeling ashes from the boiler room; he ascended to the top of the boilers and removed the weight from the safety valve lever; the escaping steam scalded him and he died from his injuries.
Feb. 4,	Frank Meyers, ...	Miner, ...	28	S.	....	....	Capouse, ...	Lackawanna, ..	Meyers and his laborer were working a chamber in the Diamond vein; three blasts had been fired in the place on the day of the accident. John Sherritt, the laborer, said that no examination of the roof had been made afterwards by the miner; both men were engaged loading a car, when a piece of the roof rock fell, instantly killing the miner; this accident is attributable to insufficient care on the part of the deceased.

	10,	John L. Davies, ...	Fire boss, ...	64	M.	1	6	Dodge, ...	Lackawanna, ..	The engineers were in the mine for the purpose of taking levels in gangway G, New County vein; the fire boss accompanied them for the purpose of ascertaining the condition of every place before they entered. They had done some work and were in the inside crosscut between the gangway named and its parallel airway. The fire boss left the engineers, to make an examination of two chambers into which they were about to enter; he was carrying two lights when he left, a safety lamp and a naked lamp; an explosion followed which resulted in his death.
	16,	Arnold Ott, ...	Outside loader, ..	32	S.	...	....	Pyne breaker, ...	Lackawanna, ..	Two box cars were standing under the breaker; Ott was passing between them when some empty cars bumped them; Ott was squeezed between the two. The cars which bumped were running on an icy rail and were not well under control. The alarm was given; Ott was slightly deaf and failed to get out of danger's way; he died on January 18.
	20,	Thomas Glencross, ...	Miner, ...	37	S.	...	....	Penn'a No 5 shaft, ...	Lackawanna, ..	Glencross and his brother James, together with two laborers, were working in a chamber in Dunmore No. 3 vein; three blasts had been prepared, one of which had been exploded. James Glencross, returning to the face to fire the second hole, when he discovered the third prop from the face on the right side had been dislodged; he called his brother Thomas to assist him to replace it; while they were thus engaged a large piece of roof rock fell, causing Thomas' instant death.
	28,	Richard Helenaugh, ...	Driver, ...	15	S.	...	....	Green Ridge slope, ...	Lackawanna, ..	Helenaugh was leading the front mule of a three-mule team; he fell, the trip passing over him and he was dead when extricated.
Mar.	7,	Josiah Sibley, ...	Driver, ...	15	S.	...	....	Old Forge No. 2, ...	Lackawanna, ..	Sibley and another boy were taking out a loaded car from a chamber; they lost control of the car; Sibley was struck, receiving injuries from which he died.
	31,	John Redich, ...	Miner, ...	33	M.	1	....	Mt. Pleasant, ...	Lackawanna, ..	The victim of this accident was working a chamber in the "Five-Foot" vein; at the time of the accident he had just fired a blast. The flying coal displaced a collar near the face; the miner was replacing the timber when he was struck by the falling roof; he died at 10 P. M. the same day in the Lackawanna Hospital.

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TABLE IV.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
April 1.	Frank Christ, ...	Miner, ...	47	M.	1	3	Brisbin, ...	Lackawanna, ..	From the testimony of the laborer, who was the only witness to this accident, it appeared that two holes had been fired prior to the occurrence; these did not cut; the miner was mining the shattered coal when the roof rock fell on him; the miner had remarked to the laborer that the place was not safe.
5.	John Clark, ...	Door boy, ...	14	S.	...	....	Old Forge No. 2, ...	Lackawanna, ..	Clark was employed as a door tender; he was asked by Timothy McAndrew, a driver, 17 years of age, to assist him to get a loaded car out of a chamber; Clark was leading the mule, while McAndrew was spragging; McAndrew claims that two sprags fell out, thus allowing the car to move down the hill at a rapid rate; Clark fell near the track and sustained injuries from which he died in the Mercy Hospital, Wilkes-Barre, on April 19.
15.	Rees Morgan, ...	Company man, ...	22	S.	...	....	Dodge, ...	Lackawanna, ..	Morgan was working an extra shift as a laborer for Miner Gomer Jones in a chamber in the Big vein; the accident occurred at 9.30 P. M.; Morgan was loading a car at the face, when a slab of slate fell on him; he received injuries to his hand and foot, which were not considered serious at the time; complications set in and he died May 21.
May 12.	Anthony Refalka, ...	Miner, ...	23	S.	...	....	Austin tunnel, ...	Lackawanna, ..	Refalka was engaged taking off a skip from the right rib of the bottom gangway in main slope; he had fired a blast, which did not cut; he was mining out the coal from this shot when a large slab of overhanging roof fell on him, causing instant death.

	24,	G. D. Swartz, ...	Outside loader, ...	40	M.	1	1	National washery, ...	Lackawanna, ..	Swartz was engaged at the time of the accident in looking after and oiling the breaker machinery, which had just been set in motion for the first time; he leaned over a driving shaft to converse with another person when his clothes were caught in the set screw; he was revolved around with the shaft many times; his injuries terminated fatally June 1.
	31,	John Healy, ...	Miner, ...	40	M.	1	5	Jermyn No. 2, ...	Lackawanna, ..	Healy was drilling a hole on the left rib of his chamber and in the bottom bench, directly under the outer edge of the overhanging top coal; a fall took place, inflicting injuries from which he died June 10.
June	6,	John Kane, ...	Door boy, ...	14	S.	...	....	Penn'a No. 5 shaft, ...	Lackawanna, ..	Kane was employed as a door tender in northeast heading, No. 1 Dunmore vein; at the time of the accident the driver was coming out with a trip of loaded cars; Kane was leading the mule, evidently intending to run ahead in time to open the door; the mule and Kane came to the door together; the cars bumped both against the closed door. Kane received injuries from which he died the following day.
	17,	Michael Ketrick, ...	Driver, ...	17	S.	...	....	Cayuga, ...	Lackawanna, ..	Ketrick and his brother were driving a trip of empty cars along the "straight road" gangway, in the Clark vein, when Michael was instantly killed by a fall of rock. All testimony available was placed before the coroner of the county and a jury; the verdict rendered was to the effect that Ketrick's death was accidental.
	24,	Walter J. Howells, ...	Miner, ...	24	S.	...	....	Pyne, ...	Lackawanna, ..	Howells was working a chamber on the pitch in the Clark vein. At the time of the accident he was in a kneeling position, tamping a hole in the bottom bench, when a piece of coal from the top bench fell, striking him on the head, causing instant death.
July	1,	Thomas Gerrity, ...	Miner, ...	53	M.	1	6	Dodge, ...	Lackawanna, ..	Gerrity volunteered to assist two fellow miner to pull down a piece of bad roof near the face of Henely's chamber; while so doing the drill struck him, felling him to the ground; a piece of the roof rock at the same time fell on the gob and rolled on Gerrity, causing his death. death.

TABLE IV—Continued.

Date of accident.	Name of Person	Occupation	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
July	5.	Stephen Hawanzah	Laborer,	30	S.		Pyne,	Lackawanna,	Hawanzah's miner had fired a blast in the face of the chamber; he was unable to make the necessary examination of the roof immediately thereafter; he warned the laborer not to go into the face; while the miner was at his box a fall took place in the face and the laborer's body was found under the fall.
	17.	William Reach,	Track layer,	41	M.	1	6	Austin tunnel,	Lackawanna,	Reach was engaged on the day of the accident re-laying a road in an old chamber, preparatory to the robbing of pillars; at about 4 P. M. he left his own work to visit a fellow workman to ascertain the time; while returning it became necessary for him to pass a car which was being loaded at another place; as he was passing this car a small piece of roof rock fell, striking him on the head causing instant death.
	27.	Neal Johnson,	Laborer,	46	S.			Capouse,	Lackawanna,	Johnson was working in a chamber in the Big vein; in this place top coal was being worked. A slab of roof rock fell on him, causing instant death.
Aug.	1.	Joseph Good,	Laborer,	28	S.			Archbald,	Lackawanna,	Good was working in a chamber in the Big vein; there were four men working in the place; thirty minutes before the accident a blast was fired in the face; the miner claims that an examination of the coal was made afterwards by sounding it with drills; it was pronounced to be safe. Good was throwing coal back from the face when a piece of the top coal from between two slips fell, striking him with fatal results.

	6,	Edward Robinson, ...	Laborer, ...	30	S.	....	Von Storch slope, ...	Lackawanna, ..	This accident took place at the face of a gangway in the Diamond vein; it had been found necessary to stand a pair of cross timbers to secure the roof; everything was in readiness to lift the collar to its position. As Robinson was stooping to assist in lifting the collar, a piece of roof rock fell on him; he died six days later.
	17,	Daniel Lewis, ...	Driver, ...	23	S.	....	Pyne, ...	Lackawanna, ..	Lewis' light became extinguished; he fell between the car and the rib on the narrow side of the track and sustained injuries from which he died.
	18,	Ulolda Morelli, ...	Laborer, ...	39	S.	....	Meadow Brook tunnel, ..	Lackawanna, ..	The miner for whom Morelli was working, whose name is Nicholas Malisteta, had prepared his last blast for the day, and was waiting for the laborer to load the car then standing at the face before firing it; the laborer prevailed on the miner to go home, saying he would fire the blast himself. The miner left; some time later the runner entered the chamber for the loaded car; he found Morelli's body thirty feet from the face; he was dead; the hole had been fired; an inquest was held.
	23,	William Jones, ...	Miner, ...	50	M.	1	Brisbin, ...	Lackawanna, ..	Jones, with others, was working in the surface vein; a blast had been fired; Jones examined the roof after it and pronounced it safe; in a short time a piece of roof rock was falling; Jones was standing near the spot. In order to escape the fall the threw himself backwards; in doing so his back struck against a piece of coal, severing his spinal column; he died September 18.
Sept.	12,	Michael Monohan, ...	Outside laborer, ...	39	M.	1 5	Nay Aug breaker, ...	Lackawanna, ..	Monohan was working at a point some distance from the "foot" of an outside plane; a signal had been given to the engineer to lower an empty car; the engineer lost control of his engine and the empty car jumped the track at the "foot," striking Monoghan with fatal results.
	22,	John Martin, ...	Company man, ...	19	S.	....	Von Storch slope, ...	Lackawanna, ..	Martin was standing on the narrow side of the road at the foot of a light grade, in the "Four Foot" vein; two drivers were on the grade; the first driver's mule balked, letting the car back against the second driver's mule; in the mix up, the car attached to the second mule become unhitched, ran back, striking Martin with fatal results.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Sept. 22.	Joseph Moses, ...	Laborer, ...	39	S.	....	....	Jermyn No. 2, ...	Lackawanna, ..	Moses was cutting a prop which was in position to support the top coal; he had been warned not to do so. A piece of the roof fell on him and he died the same day.
28.	Walter Carter, ...	Driver, ...	31	S.	....	....	Spencer's washery, ...	Lackawanna, ..	Carter was caught in a conveyor line and instantly killed; he had assisted in erecting the washery; the machinery had just been started up to ascertain if it was all right
Oct. 4.	Martin Cawley, ...	Runner, ...	17	S.	....	....	Capouse, ...	Lackawanna, ..	Cawley was riding on a trip of loaded cars; the trip consisted of eight cars and Cawley was standing on the bumper between the third and fourth; he stooped as the trip was passing through a doorway and was squeezed between the trip and the door post on the narrow side; he sustained injuries from which he died October 23.
11.	Robert Staff, ...	Laborer, ...	21	S.	....	....	Old Forge No. 1, ...	Lackawanna, ..	Staff was laboring in a gangway; the vein is low; height is made by blasting roof rock; the miner had fired a row of holes along the right rib into the face; the rock was hanging from the left rib. The miner examined this rock and found it required a prop. The mineer and laborer were prepairing to stand the prop, when a piece of the roof fell on the laborer, killing him instantly

	12,	Isaac J. Lewis, ...	Laborer, ...	31	S.	....	....	Dodge, ...	Lackawanna, ..	Lewis was laboring on the night shift in a chamber in the Big vein; there is a slab of slate four inches thick resting on this coal; after loading the fourth car of coal the miner and laborer made an examination of the hanging slate and pronounced it safe for the time; when the laborer was topping the fifth car, a piece of the slate fell on him, inflicting injuries from which he died the following day.
	13,	Joseph Graham, ...	Slate picker, ...	14	S.	....	....	Cayuga, ...	Lackawanna, ..	Graham, with a number of other boys, was in the pea coal pockets of the breaker during the dinner recess; the loaders started to draw coal from the pockets into railroad cars. Graham was drawn in; he was dead when found.
	14,	Joseph Miller, ...	Driver, ...	16	S.	....	....	Mt. Pleasant, ...	Lackawanna, ..	Miller hitcher his mule to an empty car which was standing at a point 41 feet from the face of Stevens' chamber, with the intention of taking the car to the face; the mule immediately started up at a high rate of speed; Miller fell, the empty car passing over him; he died in the mine ambulance while being taken home.
	27,	Frank Deyak, ...	Laborer, ...	42	M.	1	2	Lawrence, ...	Lackawanna, ..	Deyak was on his way out of the mine; he reached the head of the lower drift inside plane; he was told to go down the plane manway and did so and was struck by the first trip of cars ran on the plane after the warning was given to him; he was found at a point 180 feet from the foot in an injured condition and died the same day.
Nov.	20,	Andrew Solak, ...	Slate picker, ...	15	S.	....	....	National washery, ...	Lackawanna, ..	Solak had left his own place and had gone on to an upper floor on which no persons were at the time employed; he was found by the breaker oiler; he was fast to a revolving shaft and was dead when extricated.
	28,	Martin Ferguson, ...	Driver, ...	17	S.	....	...	Pine Brook, ...	Lackawanna, ..	Ferguson was employed as a driver on the passing branch near "foot" of shaft; at the time of the accident Jas. Barrett, the footman, was letting four cars run to the shaft; Ferguson attempted to uncouple the two front cars while they were yet in motion; the rear car left the track. Furguson's head was crushed between the two cars; he died at 3 A. M. on the following day.

TABLE IV.—Continued.

Date of accident.	Name of Person.	Occupation	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Dec. 9.	John Copatch.	Laborer, ...	40	M.	1	2	Green Ridge slope, ...	Lackawanna, ..	Copatch was laboring in a narrow place, working on top coal; the miner had just fired a blast to discharge some props for the purpose of letting down the top coal; he was ready to go home; the laborer, the victim of this accident, was anxious to see the effect of the blast; the miner warned him that the top coal was expected to fall. He went to see and was instantly killed by the falling top coal.
14.	Joseph Sork, ...	Miner, ...	35	M.	1	1	Jermyn No. 1	Lackawanna,	These men were working together in a chamber in the Baltimore vein. On the 5th inst the Mine Inspector was in the place and ordered the miner not to let the top bench of the vein hang too far back. On the day of the accident the top coal was hanging eight feet back from the face, the same extending half way across the chamber, and being three feet thick; this mass fell, killing both men instantly.
14.	Joseph Cor.	Laborer, ...	46	M.	1	4	Jermyn No. 1	Lackawanna,	
14.	Richard Dehanan ..	Driver, ...	18	S.	....	....	Hyde Park, ...	Lackawanna, ..	Dehanan was driving from four places on Lawson's gangway, in the Clark vein; he was the only driver on the road; it had been his custom to collect a trip of two loaded cars at the safety block at the head of a grade, and run the same out on sprags. On the day of the accident it appears he ran one loaded car down the grade on sprags. He followed with a trip of two loaded cars with the mule attached, which collided with the first car, and he was almost instantly killed.

16,	William Mathews, ...	Driver, ...	19	S.	Pine Brook, ...	Lackawanna, ..	Mathews was employed as a driver at the "foot" of the main hoisting shaft; he drove a team of mules hauling cars from one side of the shaft to the other. Although a number of persons were employed around the "foot" at the time of the accident, no one seemed able to explain how it occurred. Mathews was found in a dying condition beside the track at a point twenty feet from the shaft; the coroner's jury rendered a verdict to the effect that Mathew's death was accidental.
29,	Chas. Brady, ...	Driver, ...	16	S.	Cayuga, ...	Lackawanna, ..	Brady, with five others, two miners and three drivers, were running a trip consisting of six loaded cars from a level counter heading on to a grade. The trip had been collected at a safety block. At the time of the accident the trip was moving on to the grade; five cars had passed the safety block, the sixth car struck it. The rear end of this car swung round and knocked Brady against a prop which was standing at a distance of 2 feet 9 inches from the right side of the track; he died immediately.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Second Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 4.	David Bowen,	Driver,	21	S.	Archbald,	Lackawanna,	Injured by cars, inside, while uncoupling the same.
6.	Chris. Conners,	Miner,	25	S.	Old Forge No. 1,	Lackawanna,	Leg fractured by flying coal from blast.
12.	Dominick Galaghar,	Company man,	58	S.	Dodge,	Lackawanna,	Knee bruised by cars, inside.
16.	Mike Stravinskie,	Laborer,	19	S.	Tripp slope,	Lackawanna,	Head injured by fall of roof.
19.	David C. Davies,	Junction tender,	15	S.	Cayuga,	Lackawanna,	Leg fractured by falling from a trip of moving cars, inside.
19.	Francis Curly,	Runner,	19	S.	Jermyn No. 3,	Lackawanna,	Severely injured by cars, inside; he was following a car down a grade when another car which he had neglected to sprag followed, striking him.
27.	Patrick McGuire,	Driver's helper,	17	S.	Diamond breaker,	Lackawanna,	Arm fractured by cars, outside, which he was uncoupling.
30.	Fred. Owens,	Door boy,	16	S.	Jermyn No. 2,	Lackawanna,	Squeezed between trip and door post.
31.	Henry Morgan,	Miner,	48	S.	Dickson,	Lackawanna,	Injured by flying coal from blast. These men mistook the report of a blast in a nearby chamber, and were returning to the face, when they were struck by the flying coal from their own blast.
31.	Pat. Brannon,	Laborer,	34	M.	Dickson,	Lackawanna,	
Feb. 2.	Joseph Gravich,	Driver,	20	S.	Capouse,	Lackawanna,	Bruised by being squeezed between a trip and a door post; he was riding on the front bumper. He stooped to clear the top rail of the door; part of his body projected and was caught against the door post.
4.	David Simmons,	Driver,	16	S.	Cayuga,	Lackawanna,	Leg fractured by being struck by a car jumping the track.
6.	Edward Molony,	Driver,	16	S.	Green Ridge slope,	Lackawanna,	Arm cut off by a trip of cars passing over it.
8.	John Judge,	Miner,	32	M.	Bellevue slope,	Lackawanna,	Fell on a pitching place and was rolling down, when a piece of coal followed, striking him.
9.	P. Lushman,	Laborer,	38	M.	Tripp slope,	Lackawanna,	Leg fractured by fall of roof.
10.	Horace Johns,	Engineer,	32	M.	Dodge,	Lackawanna,	These men were injured by an explosion of gas; the explosion in all probability was due to the fire boss carrying a naked light with his safety lamp while making his examination of the advanced workings.
10.	Joseph Evans,	Engineer,	29	M.	Dodge,	Lackawanna,	
10.	Steve Schmitt,	Engineer,	38	M.	Dodge,	Lackawanna,	

	18,	Peter Judge,	Brakeman,	17	S.	Diamond breaker,	Lackawanna,	Leg fractured by a derailed trip of cars, outside.
	19,	Vito Mariam,	Outside laborer,	40	M.	Diamond breaker,	Lackawanna,	Leg scalded while cleaning boiler flues outside.
	20,	John Lucas,	Outside laborer	28	M.	Hampton breaker,	Lackawanna,	Slightly injured in a collision of mine cars, outside.
	21,	Frank Pozyok,	Laborer,	30	S.	Lawrence,	Lackawanna,	Leg fractured by fall of roof.
	22,	Alex. Ostrosky,	Laborer,	25	S.	Green Ridge slope,	Lackawanna,	Leg fractured by fall of roof.
	24,	Patrick Sweeney,	Laborer,	21	S.	Continental,	Lackawanna,	Foot injured by fall of roof.
	25,	John Doherty,	Runner,	17	S.	Old Forge No. 1,	Lackawanna,	Injured by falling in front of moving trip of mine cars, inside.
	25,	Adam Smith,	Laborer,	32	M.	Cayuga,	Lackawanna,	Injured by fall of roof.
Mar.	2,	Samuel Hendershot,	Driver,	16	S.	Holden,	Lackawanna,	Cut on head by kick from a mule.
	4,	Chas. Atkinson,	Door boy,	14	S.	Dickson,	Lackawanna,	Severely injured by a runaway car.
	7,	Grover Singer,	Slate picker,	14	S.	Capouse,	Lackawanna,	Slightly injured by breaker machinery.
	8,	Christ. Moser,	Laborer,	30	S.	Oxford washery,	Lackawanna,	Was crossing over a conveyor line when he fell; he was carried along and severely injured.
	14,	Llewelyn Jenkins,	Miner,	63	S.	Capouse,	Lackawanna,	Rib fractured and ankle sprained by a car leaving the track.
	17,	Patrick McAndrew,	Laborer,	31	S.	Hyde Park,	Lackawanna,	Injured by fall of roof at face of chamber in rock vein.
	17,	Thomas Quinn,	Door boy,	16	S.	Hampton,	Lackawanna,	Shoulder bone fractured by falling off a moving trip of cars.
April	6,	John Murray,	Driver's helper,	15	S.	Greenwood No. 5 drift,	Lackawanna,	Leg cut off by falling in front of moving cars.
	6,	David J. Edwards,	Miner,	65	M.	Taylor,	Lackawanna,	Injured by a blast which he was firing.
	10,	Edward Wheeler,	Laborer,	19	S.	Hyde Park,	Lackawanna,	Foot injured by a piece of rock sliding off the gob.
	20,	Henry Granville,	Breaker boss,	31	M.	Mt. Pleasant,	Lackawanna,	Squeezed between pulley and belt while replacing the latter.
	22,	William Bushon,	Driver,	17	S.	Capouse,	Lackawanna,	Squeezed between trip and rib while holding the safety latch for trip to pass.
	26,	John Pedie,	Laborer,	36	M.	Archbald,	Lackawanna,	Injured by flying coal from a blast; sufficient warning had not been given.
	29,	Robert Watkin,	Driver,	17	S.	Pine Brook,	Lackawanna,	Hands and face scorched by the ignition of a small pocket of gas in chamber.
	29,	Wm. Evans,	Driver's helper,	16	S.	Pine Brook,	Lackawanna,	
May	2,	Thomas Ragan,	Outside loader,	22	S.	Penn'a No. 5 breaker,	Lackawanna,	Injured by falling a distance of fifteen feet from the top of a trestle to the ground.
	5,	Mathew Holly,	Miner,	45	M.	Hampton,	Lackawanna,	Hip bone fractured by fall of roof.
	12,	John Lloyd,	Driver,	19	S.	Cayuga,	Lackawanna,	Bruised by a fall of slab.
	18,	John Buntel,	Driver,	14	S.	Green Ridge slope,	Lackawanna,	Leg was fractured by a passing trip.
	19,	David Whalen,	Miner,	35	M.	Meadow Brook shaft,	Lackawanna,	Head and shoulders severely bruised by fall of roof.
	23,	John Tilcosky,	Miner,	32	M.	Jermyn No. 2,	Lackawanna,	Severely burned by powder, which he was handling in a careless manner
	29,	Michael Hawley,	Carpenter, outside,		S.	Bowen washery,	Lackawanna,	Leg fractured by revolving shaft of conveyor line.
	31,	George Martchock,	Laborer,	34	M.	Archbald,	Lackawanna,	Thigh and hand injured by fall of roof while assisting to restand a prop near face.
June	1,	John Clark,	Miner,	24	S.	Cayuga,	Lackawanna,	Injured by fall of roof while restanding a prop.
	1,	John Day,	Miner,	38	M.	Cayuga,	Lackawanna,	Injured by fall of coal from top bench while engaged drilling a hole in the bottom bench.
	5,	Fred. Guse,	Miner,	56	M.	Old Forge No. 1,	Lackawanna,	Injured by fall of roof while engaged making examination of the roof after a blast.
	6,	John Davies,	Miner,	51	M.	Cayuga,	Lackawanna,	Head and arm injured by fall of roof in chamber.
	6,	Patrick McNulty,	Miner,	50	S.	Nay Aug slope,	Lackawanna,	This man was in a neighbor's chamber assisting to replace a derailed car, when he was injured on head and arm by fall of roof

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
June 6.	Daniel Ragan,	Sinker,	36	M.	Mt. Pleasant,	Lackawanna,	Knee injured by falling with platform into sinking shaft.
7.	Felix Zico,	Laborer,	24	S.	Greenwood old No 1 shaft.	Lackawanna,	Arm fractured by cars, inside.
12.	Daniel Costello,	Driver,	20	S.	Bellevue shaft,	Lackawanna,	Was riding in an empty trip on an inside plane. A collision took place.
12.	Frank Pilvalis,	Drill runner,	27	S.	Mt. Pleasant,	Lackawanna,	These men were injured at the face of a chamber in the "Five Foot" vein. They were preparing to drill some holes when a piece of roof rock fell, injuring them.
12.	John Peddash,	Drill runner,	26	M.	Mt. Pleasant,	Lackawanna,	
12.	John Karoush,	Laborer,	23	S.	Mt. Pleasant,	Lackawanna,	
12.	Joseph Williams,	Driver,	25	S.	Mt. Pleasant,	Lackawanna,	
12.	George Perrigram,	Laborer,	42	M.	Jermyn No. 2,	Lackawanna,	Injured by fall of roof at face of chamber while loading a car.
15.	Thomas Connor,	Sinker,	24	M.	Mt. Pleasant,	Lackawanna,	Knee fractured by falling out of bucket into the sumpt.
19.	George Richards,	Miner,	48	M.	Mt. Pleasant,	Lackawanna,	Injured by flying coal from blast.
21.	John Hartman,	Brakeman,	25	M.	Mt. Pleasant,	Lackawanna,	Leg fractured by a part of trip propelled by electric motor jumping the track.
28.	Evan Owens,	Company man,	43	M.	Sloan,	Lackawanna,	Toe crushed by falling gob.
28.	John Connelly,	Miner,	55	M.	Old Forge No. 2,	Lackawanna,	Scalp wounded by fall of rock while returning to face after blast.
30.	David Buynon,	Miner,	32	M.	Tripp drift,	Lackawanna,	Injured by fall of roof in face of working place.
July 5.	Joseph Magdalesky,	Miner,		S.	Jermyn No. 2,	Lackawanna,	Injured by fall of roof while preparing to stand a prop to support it.
5.	Louis Lenaric,	Driver,	15	S.	Bellevue slope,	Lackawanna,	Five fingers crushed between bumpers while uncoupling on the "fly."
6.	John Gilbride,	Miner,	54	M.	Cayuga,	Lackawanna,	Painfully injured by fall of bony while engaged mining the bottom bench.
6.	Thomas Walsh,	Laborer,	33	S.	Dodge,	Lackawanna,	Rib fractured by fall of roof.
6.	Louis Prutti,	Miner,	31	M.	Meadow Brook tunnel,	Lackawanna,	These men were tamping a hole when the charge exploded, injuring both.
6.	Angelo Prutti,	Laborer,	29	S.	Meadow Brook tunnel,	Lackawanna,	
7.	David Rees,	Miner,	45	M.	Brisbin,	Lackawanna,	Arm injured by flying coal from blast while he was retreating to a place of safety.
10.	John Rapco,	Miner,	38	M.	Jermyn No. 2,	Lackawanna,	Painfully injured by explosion of gas; the victim failed to close a door as he entered in the morning; he exploded the gas at or near the face of his chamber.

	19.	Eugene O'Hora,	Driver's helper,	16	S.	Nay Aug slope,	Lackawanna,	Arm cut while trying to pass cars on the narrow side of the road.
	12.	William Scott,	Driver, outside,	16	S.	Von Storch breaker,	Lackawanna,	Three fingers crushed by cars on culm dump.
	15.	John Kennedy,	Laborer,	40	S.	Penn'a No. 5,	Lackawanna,	Injured by fall of roof.
	17.	Thomas Fenton,	Driver,	15	S.	West Ridge,	Lackawanna,	Knee injured by being caught between the bumpers of cars.
	17.	August Gable,	Laborer,	35	M.	Hyde Park,	Lackawanna,	Cut and bruised by fall of roof while loading a car of coal at the face.
	17.	William Rowlands,	Slate picker,	13	S.	Archbald,	Lackawanna,	Leg fractured while engaged with other boys playing with a truck during the noon hour.
	18.	Vincent Mikolagezak,	Laborer,	25	M.	Continental,	Lackawanna,	Bruised by a fall of roof at face of chamber.
	19.	Richard Powell,	Miner,	38	M.	Jermyn No. 2,	Lackawanna,	Injured internally by fall of roof following the discharge of props by blast.
	19.	James Willis,	Miner,	28	M.	Jermyn No. 2,	Lackawanna,	Head cut by falling top coal.
	20.	Sanford Morgans,	Driver,	17	S.	Cayuga,	Lackawanna,	Leg bruised by bumpers of cars.
	21.	Patrick Shea,	Laborer,	25	S.	Taylor shaft,	Lackawanna,	Both legs fractured by fall of roof.
	22.	M. Rafferty,	Laborer,		S.	Old Forge No. 2,	Lackawanna,	Painfully injured by fall of roof in chamber.
	26.	Geo. Hess,	Miner,	55	M.	Hyde Park,	Lackawanna,	Seriously injured by flying coal from blast; the victim fell as he was retreating to a place of safety.
	27.	Henry Strein,	Carpenter, outside,	42	M.	Hampton,	Lackawanna,	Struck by a suspended piece of timber while replacing outside trestle.
Aug.	1.	Joseph Gray,	Driver,	16	S.	Old Forge No. 2,	Lackawanna,	Two fingers cut off while unhitching a mule.
	4.	Frank Beske,	Laborer,	30	S.	Brisbin,	Lackawanna,	Struck by a piece of falling roof.
	8.	Daniel Galvin,	Miner,	35	M	Pine Brook,	Lackawanna,	Severely burned by explosion of gas while working on top coal in Clark vein.
	7.	Edgar Hartshorn,	Miner,	26	S.	Dickson,	Lackawanna,	Injured by flying coal while he was returning to "retouch" the squib.
	10.	Chas. Pobgee,	Outside laborer,	24	S.	Hampton,	Lackawanna,	Arm fractured by falling off loading platform at breaker.
	12.	Thomas Ruane,	Miner,	35	S.	Cayuga,	Lackawanna,	Leg fractured while he was examining the roof after a blast.
	10.	Thomas Donnelly,	Driver, outside,	17	S.	Greenwood No. 1 breaker,	Lackawanna,	Leg fractured by falling under trip of loaded culm cars on dump.
	14.	Edward Humphrey,	Driver,	19	S.	Tripp shaft,	Lackawanna,	Back injured by a T rail falling off cars.
	19.	Harry Celleo,	Laborer,	24	M.	Dodge,	Lackawanna,	Injured by falling roof.
	17.	Angelo Matti,	Company man,	38	M.	William A,	Lackawanna,	Face burned by a premature blast.
	21.	William Moran,	Door boy,	15	S.	Old Forge No. 1,	Lackawanna,	Leg fractured by falling from cars.
	16.	Fatune Redaniskie,	Laborer,	28	S.	Manville,	Lackawanna,	Thigh injured by fall of roof.
	29.	Louis Lulanski,	Laborer,	18	S.	Bellevue slope,	Lackawanna,	Head and stomach injured by fall of roof in face of chamber.
Sept.	1.	John T. Jones,	Laborer,	23	S.	Archbald,	Lackawanna,	Hip injured while engaged drilling a hole in rock by fall of roof.
	5.	Henry Crabbe,	Miner,	27	M	Dickson,	Lackawanna,	Injured by flying coal from blast, while retreating to a place of safety.
	9.	Rees Lloyd,	Laborer,	62	M.	Diamond shaft,	Lackawanna,	Collar bone fractured by cars jumping the track and striking him.
	12.	Adam Warner,	Miner,	44	M	Hampton,	Lackawanna,	Head injured by fall of roof.
	12.	Sylvester Motzerbocker,	Miner,	31	M.	Capouse,	Lackawanna,	Leg fractured and body bruised by fall of roof in face of chamber.
	13.	James Digwood,	Mason,	50	M.	Jermyn No. 1,	Lackawanna,	Leg injured by a piece of rock sliding from gob.
	14.	Adam Roman,	Laborer,	31	M.	Hampton,	Lackawanna,	Hand injured by fall of roof at face of chamber.
	19.	Wm J. Williams,	Miner,	40	M.	Dodge,	Lackawanna,	Rib fractured by fall of roof.
	26.	John S. Kizer,	Outside laborer,	20	S	Bunker Hill,	Lackawanna,	Injured by falling from trestle.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Sept. 27.	George Williams, ...	Driver, ...	16	S.	Mt. Pleasant, ...	Lackawanna, ...	Leg fractured while trying to uncouple cars in motion.
29.	Claude Watrous, ...	Outside laborer, ...	19	S.	Bunker Hill, ...	Lackawanna, ...	Rib fractured by falling from trestle.
30.	Jenkin Davies, ...	Runner, ...	20	S.	Dodge, ...	Lackawanna, ...	Injured by falling from trip of cars.
Oct. 2.	John R. Jones, ...	Company man, ...	27	S.	Capouse, ...	Lackawanna, ...	Leg fractured in a collision of mine cars.
5.	John Paul, ...	Laborer, ...	32	S.	Taylor shaft, ...	Lackawanna, ...	Slightly injured by fall of roof.
6.	John Gerrity, ...	Driver, ...	19	S.	Tripp slope, ...	Lackawanna, ...	Foot injured by cars, inside.
13.	Patrick Conavy, ...	Laborer, ...	26	S.	Taylor drift, ...	Lackawanna, ...	Injured by fall of roof while assisting to restand a dislodged prop.
13.	Martin Syron, ...	Laborer, ...	27	S.	Archbald, ...	Lackawanna, ...	Injured by fall of roof at face of chamber.
14.	William Kerr, ...	Driver, ...	16	S.	Manville, ...	Lackawanna, ...	Leg and hip injured by being caught under a derailed mine car.
19.	Frank Bryden, ...	Breaker engineer,	35	M.	Dodge breaker, ...	Lackawanna, ...	Collar bone broken by falling while engaged moving breaker machinery.
19.	Edward Davies, ...	Driver, ...	17	S.	William A., ...	Lackawanna, ...	Leg fractured by a rail falling off truck.
19.	Daniel Lampton, ...	Laborer, ...		S.	Mt. Pleasant, ...	Lackawanna, ...]	By explosion of gas these men were slightly
19.	Phillip McGuire, ...	Laborer, ...		S.	Mt. Pleasant, ...	Lackawanna, ...]	burned.
20.	Thomas J. Walsh, ...	Miner, ...	29	S.	Continental, ...	Lackawanna, ...	Struck by falling roof.
24.	John Hotchkins, ...	Driver, ...	16	S.	Manville, ...	Lackawanna, ...	Squeezed between car and prop while spragging.
27.	Renaldi Astolfi, ...	Miner, ...	26	S.	William A., ...	Lackawanna, ...	Struck by flying coal from blast.
26.	Valentine Seyloskie, ...	Miner, ...	50	M.	William A., ...	Lackawanna, ...	Injured by a blast, which he supposed had "missed."
26.	Anthony McAndrew, ...	Miner, ...	50	S.	Pine Brook, ...	Lackawanna, ...	Injured by fall of roof, while trimming the same after a blast.
26.	James O'Brine, ...	Driver, ...	17	S.	Pine Brook, ...	Lackawanna, ...	Finger cut off while hitching a mule to a trip of cars.
27.	John Pilvallis, ...	Miner, ...	27	S.	William A., ...	Lackawanna, ...	Two ribs fractured while assisting to replace a derailed car.
Nov. 4.	Wm. Bartles, ...	Miner, ...	37	M.	Capouse, ...	Lackawanna, ...	Leg fractured by fall of top coal.
8.	Isaac Benjamin, ...	Miner, ...	33	S.	Dodge, ...	Lackawanna, ...)	These men were restanding a dislodged prop
8.	Morgan Morgan, ...	Laborer, ...	21	S.	Dodge, ...	Lackawanna, ...)	when they were struck by a piece of roof.
9.	Thomas Hagen, ...	Miner, ...	33	S.	Brisbin, ...	Lackawanna, ...	Face and arm seriously injured by flying coal from blast.
9.	John Carroll, ...	Miner, ...	45	M.	Hyde Park, ...	Lackawanna, ...	Was retreating to a place of safety when he was struck by a piece of coal.
10.	Peter Peonski, ...	Laborer, ...	19	S.	Archbald, ...	Lackawanna, ...	Face injured by fall of roof.

	11,	Petelina Brada, ...	Laborer, ...	40	M.	Archbald, ...	Lackawanna, ...	Head injured by fall of rock.
	11,	Dorson Weatherhog, ...	Miner, ...	51	M.	Bellevue slope, ...	Lackawanna, ...	Was returning to a blast, thinking it had "missed," when he was struck by the flying pieces and injured.
	15,	Racho Stanley, ...	Miner, ...	36	M.	Greenwood No. 2, ...	Lackawanna, ...	Leg fractured by fall of roof at face of chamber.
	19,	Thomas Price, ...	Company rockman,	33	M.	Cayuga, ...	Lackawanna, ...	Leg fractured by fall of rock; Price was in the act of taking the rock down when it fell on him.
	19,	Wm. Gouse, ...	Miner, ...	42	M.	Mt. Pleasant, ...	Lackawanna, ...	He had retired to what he considered to be a place of safety from a blast; he was struck on the ankle by the flying coal.
	20,	John May, ...	Miner, ...	25	S.	Hyde Park, ...	Lackawanna, ...	Face and ankle injured by fall of roof.
	20,	Edward Howells, ...	Laborer, ...	38	M.	Pine Brook, ...	Lackawanna, ...	Arm fractured in two places by flying coal from blast.
	24,	David W. Jones, ...	Miner, ...	53	M.	Archbald, ...	Lackawanna, ...	Arm fractured by fall of roof at face.
	25,	George Hill, ...	Miner, ...	38	M.	West Ridge, ...	Lackawanna, ...	Burned by powder; the men were forcing the charge into a hole when it exploded.
	25,	Wm. Clemins, ...	Laborer, ...	31	S.	West Ridge, ...	Lackawanna, ...	
	24,	John Rodick, ...	Laborer, ...	30	S.	Mt. Pleasant, ...	Lackawanna, ...	Back seriously injured by fall of roof at face of chamber.
	27,	Frank McGuire, ...	Driver, ...	16	S.	Pine Brook, ...	Lackawanna, ...	Leg fractured by falling under a moving car.
	28,	Albert Heines, ...	Door boy, ...	15	S.	Continental, ...	Lackawanna, ...	Skull fractured by a kick from mule.
Dec.	9,	John Miller, ...	Company man, ...	34	M.	Dodge, ...	Lackawanna, ...	Knee injured while uncoupling cars at foot of shaft.
	12,	Sylvester Gibbons, ...	Driver, ...	16	S.	Dodge, ...	Lackawanna, ...	Legs injured by cars while retreating from a kicking mule.
	14,	William Leonard, ...	Door boy, ...	16	S.	Dickson, ...	Lackawanna, ...	Squeezed between cars and rib while engaged withdrawing sprags.
	16,	Thomas Costello, ...	Miner, ...	40	M.	Manville, ...	Lackawanna, ...	Back injured by fall of roof at face of working place.
	21,	Andro Goural, ...	Laborer, ...	30	M.	Sibley, ...	Lackawanna, ...	Leg was fractured and arm injured by flying coal from blast.
	23,	David Laird, ...	Runner, ...	19	S.	Dickson, ...	Lackawanna, ...	Fell in front of a moving trip of cars while uncoupling the main rope at head of slope.
	29,	Benjamin Dominico, ...	Laborer, ...	40	M.	Spencer, ...	Lackawanna, ...	Leg fractured by fall of roof while he was engaged with his miner robbing pillars.
	29,	John Teokosskie, ...	Laborer, ...	31	M.	Dodge, ...	Lackawanna, ...	Two ribs fractured by fall of roof.

Third Anthracite District.

LUZERNE AND SULLIVAN COUNTIES.

Pittston, February 10, 1900.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor of presenting herewith my annual report as Inspector of Mines for the Third Anthracite District for the year 1899. It contains the usual matter in tabulated form on blanks prepared by the Bureau of Mines, also an article describing the mine fire of No. 6 shaft, Pennsylvania Coal Company, and cave-in of the Schooley shaft workings. The burning of the No. 6 washery and Mt. Lookout breaker are also described, with a brief report of some of the general improvements for the year. The total production of coal for the year was 6,854,711 tons, which is an increase of 890,244 tons as compared with the production of 1898.

The total number of fatal accidents was 62, a decrease of 23 from last year. The number of wives left widows was 37 and 97 children were left fatherless.

The number of tons of coal mined per life lost was 110,559.

In conclusion, I am pleased to remark that the provisions of the mine law have been generally complied with in this district during the past year.

Yours very respectfully,

H. McDONALD,
Inspector of Mines.

Total Production of Coal in Tons During the Year 1899.

Pennsylvania Coal Company,	1,683,270.00
Lehigh Valley Coal Company,	1,226,292.01
Butler Mine Company, Limited,	216,771.03
Delaware, Lackawanna and Western R. R. Co.,	357,751.08
Temple Iron Company,	678,755.14
Newton Coal Mining Company,	200,377.04
Old Forge Coal Company,	167,406.02
Delaware and Hudson Canal Company,	140,940.11
Thomas Waddell Estate,	22,895.13

John C. Haddock,	150,034.00
Clear Spring Coal Company,	217,528.06
Florence Coal Company, Limited,	83,834.00
W. G. Payne & Co.,	202,063.16
Keystone Coal Company,	59,265.18
Avoca Coal Company,	53,922.17
Langcliffe Coal Company, Limited,	122,579.11
Latlin Coal Company,	68,607.09
Robertson & Law,	84,572.00
Raub Coal Co., Limited,	131,782.02
Algonquin Coal Company,	217,451.00
Laurel Run Coal Company,	111,601.00
Gardner Creek Coal Company,	37,436.11
William B. Miner,	4,580.11
Crescent Coal Company,	18,612.05
Wyoming Coal and Land Company,	84,579.07
State Line and Sullivan Railroad Company,	163,555.04
Stevens Coal Co.,	166,881.00
Brookside Coal Company,	54,204.13
North American Coal Company,	115,226.00
Walter B. Gunton,	11,933.18
Total,	6,854,711.04

Number of Fatal and Non-fatal Accidents and Tons of Coal Produced for Each Life Lost and for Each Person Injured.

Name of Operators.	Number of lives lost.	Tons of coal produced per life lost.	Number of persons injured.	Tons of coal produced per person injured.
Pennsylvania Coal Company,	11	153,024	48	35,068
Lehigh Valley Coal Company,	6	204,382	37	33,143
Butler Mine Company, Limited,	3	72,357	8	27,096
Delaware, Lackawanna and Western Railroad Company,	3	119,250	16	22,359
Temple Iron Company,	12	56,563	16	42,422
Newton Coal Mining Company,	3	66,792	6	33,396
Old Forge Coal Mining Company,			4	41,851
Delaware and Hudson Canal Company,	3	34,980	3	34,980
Thomas Waddell Estate,				
John C. Haddock,	3	50,011	4	37,508
Clear Spring Coal Company,				
Florence Coal Company, Limited,			4	20,958
W. G. Payne & Co.,	1	201,063	11	18,278
Keystone Coal Company,	2	29,632	5	11,853
Avoca Coal Company,	2	26,961	2	26,961
Langcliffe Coal Company, Limited,			5	24,516
Laflin Coal Company,	1	68,607	6	11,434
Robertson & Law,			1	84,572
Raub Coal Co., Limited,	2	43,927	1	131,782
Algonquin Coal Company,	3	72,483	7	31,064
Laurel Run Coal Company,	1	111,601	5	22,320
Gardner Creek Coal Company,			4	9,359
William B. Miner,				
Crescent Coal Company,			3	6,204
Wyoming Coal and Land Company,	2	42,289	1	84,579
State Line and Sullivan Railroad Company,	1	163,555	2	81,777
Walter B. Gunton,				
Brookside Coal Company,				
Stevens Coal Co.,	1	166,881	10	16,688
North American Coal Company,	1	115,226		
Total and average,	62	110,559	209	32,701

Number of Persons Employed by Each Company and Number of Employes for Each Life Lost and Person Injured.

Name of Operators.	Number of persons employed.	Number of persons employed per life lost.	Number employed per person injured.
Pennsylvania Coal Company,	4,052	368	84
Lehigh Valley Coal Company,	2,732	455	73
Butler Mine Company, Limited,	869	289	108
Delaware, Lackawanna and Western Railroad Company,	1,009	336	63
Temple Iron Company,	1,239	103	77
Newton Coal Mining Company,	583	194	97
Old Forge Coal Company,	376	.....	94
Delaware and Hudson Canal Company,	384	128	128
Thomas Waddell Estate,	.....	.....	.....
John C. Haddock,	320	106	80
Clear Spring Coal Company,	610	.....	.....
Florence Coal Company, Limited,	216	.....	54
W. G. Payne & Co.,	639	639	58
Keystone Coal Company,	221	110	44
Avoca Coal Company,	284	142	142
Langcliffe Coal Company, Limited,	340	.....	68
Laflin Coal Company,	245	245	41
Robertson & Law,	181	.....	181
Raub Coal Co., Limited,	500	166	500
Algonquin Coal Company,	559	186	79
Laurel Run Coal Company,	400	400	80
Gardner Creek Coal Company,	126	.....	31
William B. Miner,	.....	.....	.....
Crescent Coal Company,	88	.....	29
Wyoming Coal and Land Company,	294	147	294
State Line and Sullivan Railroad Company,	351	351	175
Stevens Coal Co.,	350	350	35
Brookside Coal Company,	29	.....	.....
North American Coal Company,	45	45	.....
Walter B. Gunton,	114	.....	.....
Total,	17,156	276	82

Recapitulation of fatal accidents, 1899.

	Causes of Accidents.							Occupations.						Nationality.										
	By explosions of fire damp.	By falls of roof and coal.	By mine cars underground.	By explosions of powder and blasts.	Miscellaneous causes inside mines.	Miscellaneous causes outside.	Total.	Miners.	Laborers.	Runners, drivers and door boys.	Company day men.	Outside hands.	Total.	Americans.	Irish.	English.	Poles.	Hungarians.	German.	Italian.	Scotch.	Swedes.	Russian.	Total.
January,	.....	2	.....	2	1	2	7	4	1	.....	.....	2	7	1	2	.....	2	1	.....	1	.....	.....	.....	7
February,	.....	3	1	.....	.....	.....	4	.....	4	.....	.....	.....	4	.....	1	.....	.....	.....	1	1	.....	.....	1	4
March,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
April,	.....	2	1	.....	.....	.....	3	1	1	1	.....	.....	3	1	1	.....	1	.....	.....	.....	.....	.....	.....	3
May,	.....	.....	.....	2	.....	.....	2	2	.....	.....	.....	.....	2	.....	1	1	.....	.....	.....	.....	.....	.....	.....	2
June,	2	7	1	.....	.....	1	11	5	6	.....	.....	.....	11	1	2	.....	2	3	.....	.....	2	1	.....	11
July,	1	3	1	.....	.....	1	6	2	2	1	.....	1	6	2	1	.....	3	.....	.....	.....	.....	.....	.....	6
August,	.....	5	.....	.....	.....	.....	5	1	4	.....	.....	.....	5	1	.....	1	2	.....	1	.....	.....	.....	.....	5
September,	.....	4	.....	.....	.....	1	5	2	2	.....	1	.....	5	.....	1	.....	4	.....	.....	.....	.....	.....	.....	5
October,	.....	3	1	.....	.....	.....	4	3	.....	.....	1	.....	4	1	.....	.....	2	.....	1	.....	.....	.....	.....	4
November,	.....	4	1	1	.....	2	8	3	1	3	1	.....	8	3	2	.....	2	.....	1	.....	.....	.....	.....	6
December,	.....	4	.....	.....	2	1	7	2	2	1	1	1	7	.....	2	.....	1	2	1	.....	.....	.....	.....	7
Total,	3	37	6	5	3	8	62	25	23	6	4	4	62	11	13	2	19	6	5	2	2	1	1	62

Widows, 37.

Orphaned children, 97.

TABLE—Showing number of each class of serious non-fatal accidents, number of each class of employes and the Nationality of Persons Injured for each month of 1899.

	Causes of Accidents.							Occupations of Those Injured.							Nationality of Persons Injured.										
	By explosions of fire damp.	By falls of roof and coal.	By mine cars, inside of mines.	By explosions of powder and blasts.	From miscellaneous causes, inside.	From miscellaneous causes, outside.	Total.	Miners.	Laborers.	Runners and drivers.	Door tenders.	Foremen and assistant foreman.	Inside company workmen.	Outside employes.	Total.	American.	Welsh.	Irish.	Poles.	English.	Scotch.	Hungarian.	Russian.	German.	Italian.	Slavs.	Total.
January,	4	6	4	3	2	5	24	6	6	5	.....	.....	2	5	24	4	2	2	7	1	....	1	1	2	...	4	24
February,	2	3	1	1	.....	.....	16	6	6	2	1	.....	.....	1	16	3	....	1	8	....	....	1	....	1	....	....	16
March,	1	2	3	2	1	1	19	6	6	3	2	.....	1	1	19	6	2	1	3	....	....	4	....	....	2	1	19
April,	2	3	3	2	1	1	16	8	3	3	.....	1	.....	.....	16	8	....	3	3	2	....	1	....	1	1	....	16
May,	1	2	3	2	1	4	17	8	3	2	.....	.....	2	1	17	6	1	4	2	....	....	2	1	1	....	....	17
June,	1	10	3	.....	3	3	21	8	6	2	2	.....	1	2	21	3	1	7	6	1	....	2	....	1	....	....	21
July,	1	3	3	.....	1	1	12	6	2	3	.....	.....	.....	1	12	4	....	1	4	1	....	....	2	....	....	....	12
August,	3	4	3	1	2	3	15	4	1	3	1	.....	4	2	15	3	2	1	4	2	....	....	....	2	1	....	15
September,	4	3	3	2	2	.....	21	10	3	4	.....	.....	2	.....	21	5	1	4	5	1	....	2	....	1	1	1	21
October,	.....	1	2	.....	.....	1	7	3	.....	2	.....	.....	1	1	7	2	....	....	1	1	1	1	....	....	1	....	7
November,	2	7	4	.....	3	2	24	9	6	3	.....	1	2	1	24	10	2	5	6	....	....	1	....	....	....	....	24
December,	2	8	4	1	2	.....	17	7	5	3	.....	.....	2	.....	17	3	....	4	4	....	....	2	....	2	1	1	17
Total,	24	66	41	18	19	21	209	79	47	37	6	2	17	21	209	54	11	33	53	9	1	17	4	12	8	7	209

Annual Examination for Mine Foremen's Certificates.

The annual examination of applicants for certificates of qualification for mine foreman and assistant mine foreman was held at the Butler Hill school building, Pittston, Pa., May 23, 24 and 25, 1899.

The board of exemainers was H. McDonald, Inspector of Mines; David W. Evans, superintendent; M. W. Tigue and J. J. Morahan, miners. Twenty applicants appeared for examination for mine foreman's certificates and forty-eight for assistant mine foreman's certificates.

The following named fifteen were recommended to have mine foreman certificates: James Brown, John J. Doyle, James F. Langan, Samuel Hamblett, John T. Clark, Pittston; Robert J. Oliver, Thomas D. Rowland, William J. Tilley, Avoca; Anthony T. O'Malley, Hugh Price, Thomas Kelly, Plains; Frank S. Reilly, Forty Fort; Anthony J. Duffey, Plainsville; George Yates, Wyoming; Frederick J. Weaver, Duryea.

Forty-eight persons were recommended to have certificates of qualification for assistant mine foreman issued to them.

Burning of No. 6 Washery, Pennsylvania Coal Company.

On May 30, 1899, about 1 A. M., the No. 6 washery of the Pennsylvania Coal Company, situated between No. 6 breaker and the Ewen breaker, was discovered to be on fire. Herculean efforts were instantly put forth to save the building from destruction, with all the means at hand, but in one hour it was completely consumed. That evening, and at the time of the fire, there were three workmen employed in the breaker making some repairs to the shakers, the watchmen being in the weigh office at the time. The fire originated in the engine room, but the exact cause of its origin has never been ascertained. The washery was a comparatively new one having been built the year before and gave employment to a number of men and boys when in operation.

A new washery has been erected on the site of the burned one which is supplied with all the latest improved machinery for preparing the coal for market. It is expected to start up in January, 1900.

Burning of the Lookout Breaker.

On the morning of August 21, 1899, the large and commodious breaker of the Temple Iron Company, located at Wyoming, was discovered to be on fire at 6 A. M., and was totally consumed, and all the machinery was destroyed or damaged.

The fire was first discovered in the top of the breaker, which, in a few hours, was burned to the ground, although strenuous efforts were made by ample means kept in and around the breaker for fight

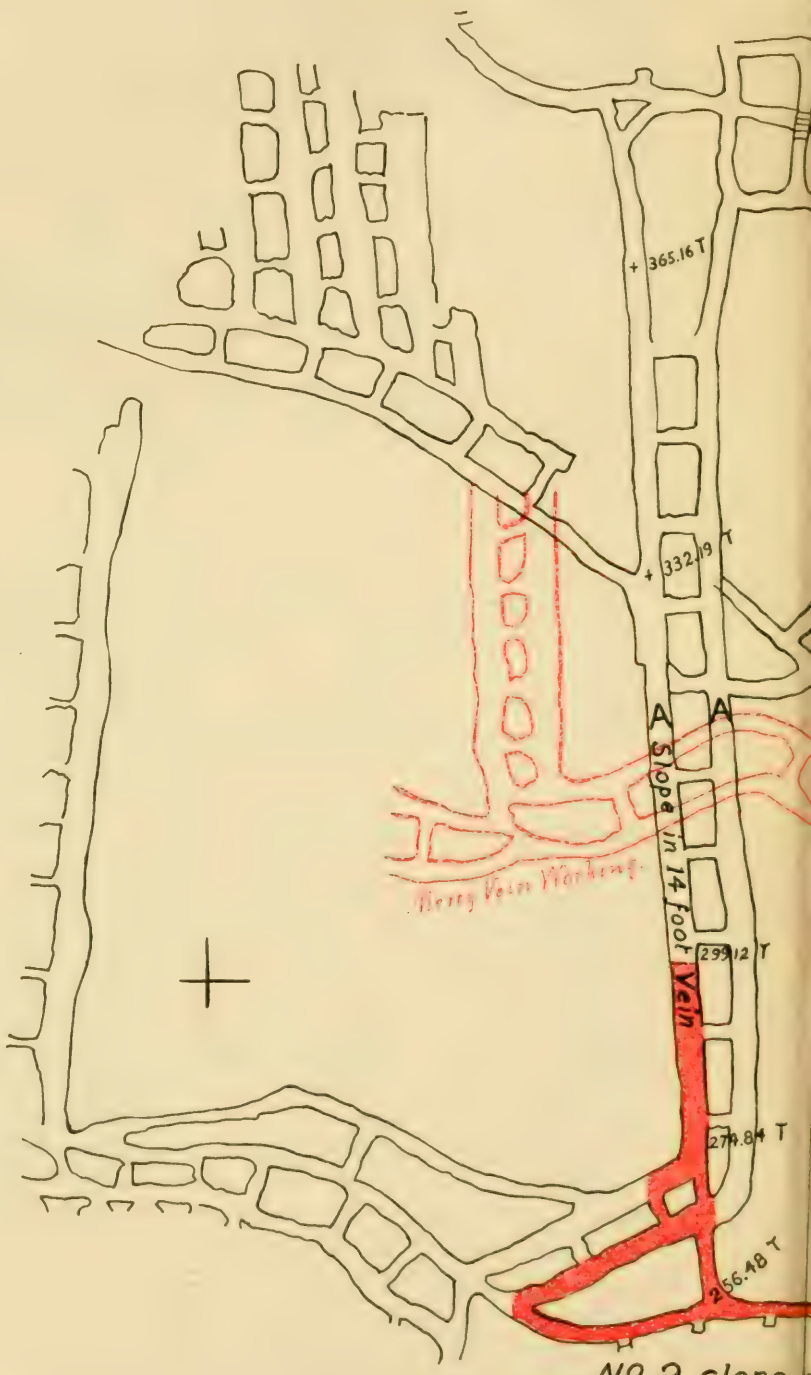
ing fires, but before it was discovered the fire had got too great a headway to be successfully fought. How it originated cannot be determined, as there was no fire or open lights allowed in or about the breaker. This company has been very unfortunate, as this is the second time for this colliery breaker to be burned inside of a few years.

The first breaker was built in 1891, and was started up to prepare coal in August of the above year. In about four years and a half later, or on January 8, 1896, it was destroyed by fire, which originated from a hot journal. The breaker, which was recently burned was what is called a wet and dry breaker, and had a large capacity for cleaning and preparing coal for market. It was started up on August 24, 1896.

A new breaker is in the course of erection on the site of the burned one, which will be of the same capacity and is expected to be in operation by March or April of 1900.

Fire in No. 6 Shaft, Pennsylvania Coal Company.

On Tuesday morning, December 13, 1898, Thomas McDonald, the fire boss, on entering the mine at an early hour to make his examination, as required by law, discovered that the timber of an inside slope in the Fourteen Foot, or Pittston, vein was on fire and that the fire had attained considerable headway. He immediately returned to the surface and sent word to the mine foreman, John F. Reynolds, who, upon seeing the serious condition of affairs, sent word to James Young, assistant superintendent of mining, and James Y. Bryden, district superintendent. A hasty conference was held and immediate action taken to get water into the mine. The water line outside was connected with the 2½-inch speaking tube in the shaft and connected by hose from bottom of shaft to the fire. For a time the water appeared to be getting the better of the fire, but as the men advanced down the slope the heat and fire became greater, and the heavy draft on the water line which feeds the colliery boilers, interfered with a steady supply to the hose of sufficient pressure to do much good, therefore, more water was necessary. The steam pipe from the No. 6 washery to the No. 6 boiler plant was disconnected and used as a water line down the shaft. The washery pumps were then started, and a good supply of water obtained and for a time hopes were entertained that the fire would be extinguished by this means. However, on Friday forenoon, December 16, the Mine Inspector for the district went in with Assistant Superintendent James Young and the foreman, who made a thorough examination and came to the conclusion that the fire had eaten its way down into the old and fallen workings of the abandoned No. 2 slope, and it was their opinion that it could not be extinguished except by flooding the workings. On reach-


+ 365.16 T
+ 332.19 T
A
A
Slope in 14 foot Vein
Heavy Vein Workings
299.12 T
279.84 T
256.48 T

No 2 slope

Map.. Showing location of fire
in Pittston or 14 foot Vein
No. 6 Shaft Penna Coal Co.
H. McDONALD
MINE INSPECTOR.
Scale 100 feet to 1 inch.
Tunnel to Main Vein
245.96 T
+1256.23 T
rkings 14 foot Vein.
Note.. A.A. where Dams were.
Extent of fire.

ing the surface, they reported the situation to George B. Smith, general superintendent, who was on the ground. From there they repaired to the residence of Andrew Bryden, consulting superintendent of mining, and held a further consultation with him and Alex. Bryden, superintendent of mining, who was staying there on account of an injury.

After a full explanation of the situation, it was concluded to flood the mine and preparations were at once begun. Two streams of water were started running on the upper edge of the fire in the slope and the slope and the airway or manway to the slope bratticed across below the second lift, allowing only sufficient air to pass down the slope to keep the smoke and products of combustion from rising upward too freely. A wall was built across the Rock tunnel, from bottom of slope to Marcy vein to prevent, if possible, the fire extending into that vein.

The extinguishing of the fire by flooding, involved the filling of the workings of No. 14 colliery to or above the level of the fire and the lower lift workings of No. 6 shaft, an area of over 200 acres. Work on preparation for the flooding of this large territory was pushed along rapidly and at the same time a close watch was being kept as to the progress of the fire. By Monday afternoon, December 19, the heat generated in the slope had caused the air current to change so that it ascended instead of descended the slope, also caused a reversal of the air current in the west gangway from the foot of the slope, which enabled the mine foreman to reach that gangway to the west of the fire, who, reporting that he thought it favorable to fight the fire from that side, Mr. Young went in with him and he also thought it advisable to fight it from that side or at least stay its progress westward. A duplex pump was placed at the No. 6 washery pumping station and a 4-inch pipe laid from it to and down No. 6 shaft to the Marcy vein and out through an upper tunnel to the fourteen foot vein.; from thence 2½-inch pipe was laid to the point on the lower gangway, at which it was proposed to begin fighting the fire back, and during the day a gang of men commenced fighting the fire from the other, or slope, end. A proposition was made to erect large tanks near the head of the slope which, when filled with water, would be discharged down the slope through troughs or sluices and so deluge the fire by water in that way. But it being quite as difficult for workmen to place the troughs or sluices in proper position to reach the fire as it would have been to handle and direct the hose near the fire; owing to the smoke and bad air this plan was not put into effect.

A suggestion, however, was made by Mr. George B. Smith, general superintendent, that a dam containing a large door be placed in the slope, this door being closed by long ropes extending up the slope and

drawn up tight, then fill the slope above the door as far as possible with water and when a large quantity was thus collected to suddenly release the rope, allowing the large door to open and the accumulated body of water to rush down the slope without obstruction and thus flood it to a great extent and also the adjacent workings. This suggestion was discussed in detail and adopted and carried out in the following manner: There being but the two places, the slope and its parallel airway driven down through a solid block of coal, these two openings were used for collecting the body of water. About 350 feet down the pitch from the head of the slope, with a vertical height of 42 feet, strong wooden dams or flood gates were built across the two places in which rectangular openings 4 feet high and 5 feet wide were left. These were closed by heavy folding doors seven inches in thickness overlapping in the center by mitred joints faced with sheet rubber. The main timber work of these flood gates were 12x12-inch oak, the posts set about 30 inches between centers and let into caps and sill by bevel joints and back of these other timbers 8x8 inch, to which were spiked 3-inch plank. Hitches were cut into the top, bottom and sides to a sufficient depth to give good substantial joining of brick work with the wood work, this brick work having a thickness of twenty-three inches on the cap, including the planking. The posts were braced on the lower side by heavy oak braces from the roof and bottom. The joints in the planking were caulked with oakum. From near the corners of each door, heavy ¾-inch chains were attached by eye bolts passing through the doors. These four chains were united by a clevis at a length of twelve feet from the doors and this clevis attached to the cones of 1¼-inch wire rope extending to the top of the slope and its airway. On the top end of the ropes a cone and large link served to attach the rope to a heavy hook passing through horizontal oak timber let into the sides and further strengthened by braces. This hook had a right angle bend to receive the link on the end of the wire rope and a long thread by means of which the rope and doors were drawn up tight. In securing the doors the links on the upper end of the four wire ropes were slipped up on the hooks and blocking places under them to prevent their slipping off. The two ropes in each place were brought within about ten inches of each other at the top and fastened together by wooden clamps. The links were released from the hooks by removing the blocking and giving them a sharp blow with a sledge hammer.

Behind these dams or flood gates from 150,000 to 200,000 gallons of water were accumulated, each twelve to fifteen hours, and discharged down the slope. This process was continued until the workmen fighting the fire backward on the gangway had reached the foot of the slope and passed to the eastward of it.

The last fire seen was on January 27, 1899, at a point just east of the foot of the slope, but the workmen continued removing the heated and burned coal and rock until they had completely surrounded it and continued the streams from three lines of hose until February 18.

The method adopted for flooding the slope (see sketch) was undoubtedly the proper one for the place, and saved the expense and almost ruinous alternative of flooding the several mines mentioned above. The work accomplished in fighting the fire backward along the gangway for more than 250 feet by means of hose streams and the removal of the burned and fallen material, as the workmen advanced amid the dangers from foul air, bad roof and sides, was no easy task and at times was almost discouraging, but the workmen braved the danger, the foreman closely watching and doing everything to insure their safety, and it is greatly to the credit of all concerned that not a single accident occurred during the whole time, except some sickness due to foul air.

The locating of the gates and dams and the placing of same and the adjustment in their working was successfully placed and worked under the immediate charge of Mr. Alex. Bryden, superintendent of mining, he having been ably supported by the following officials: Messrs. Andrew Bryden, James Young, James Y. Bryden and John F. Reynolds and other employes whose most faithful and untiring efforts were crowned with final success in a comparatively short period of time.

Destructive Cave-in of the Schooley Shaft.

On Monday, May 8, 1899, at 8.30 P. M., an extensive cave-in took place in the Pittston seam of the Schooley shaft, operated by the Pennsylvania Coal Company and located on the property of the Schooley heirs on the west side of the Susquehanna river, in the borough of Exeter.

The shaft was sunk from the surface to the Pittston, or Fourteen Foot, vein in 1883, by Nelson, Cowan & Dininny, the size of the main shaft being 10x24 feet. A few years later it was sunk from the Pittston to the Red Ash vein. A large breaker was erected over the main hoisting shaft, which was started up on September 3, 1883.

The second opening or air shaft, 10x18 feet, was sunk 500 feet north of the main opening and all the underground workings connected throughout the four workable seams. The depth from the surface to these veins is as follows: The first, or Checker, 182 feet; Pittston, or Fourteen Foot, 312 feet; Marcy, 390 feet to Red Ash or bottom vein, 582 feet. The total thickness of these seams are about 39 feet.

The property extends from low water mark in the Susquehanna river northward a distance of one mile in length and 840 feet in width, with the Lehigh Coal Company's Exeter colliery on the east and the Pennsylvania Coal Company property on the south and west sides.

Previous to June 4, 1896, this colliery was operated by the Butler Mine Company, Limited, which company finished mining all the solid coal comparatively from the Pittston, Marcy and Red Ash veins, leaving only the pillars in the above seams as support to the roof.

On June 4, 1896, this colliery passed into the possession of the Pennsylvania Coal Company, which company immediately began to repair the shaft and inside workings in order to mine the coal which lay adjoining. The pillars around the shafts were strengthened by building cogs, standing props and filling all open spaces with rock and debris which took until September 10 following, when a general start to prepare coal in the breaker was made.

Richard Appleby, the mine foreman who had charge of all the underground work under the Butler Coal Company, was retained by the Pennsylvania Coal Company in the same capacity. Being a competent and careful official and having a thorough knowledge of all the old or abandoned workings in the shaft, he proceeded to place the new workings in as safe and secure condition as possible by leaving a 150-foot barrier pillar along the line of the Schooley property to protect the new workings from danger in case of a squeeze, if such should occur.

On the evening of May 8, 1899, while the night shift was at work, a cave took place in the old workings south of the hoisting shaft. The night fire boss immediately sent for the mine foreman and notified him of the fact. Arriving at the shaft, Mr. Appleby, in company with the fire boss, descended the shaft to the Pittston vein and investigated the cave. Returning, they ordered all the workmen out of the shaft until a more thorough and satisfactory examination could be made, and, after seeing their orders complied with, they returned and made a more complete and careful examination of the affected district and discovered that a general settling or squeeze of the overlying strata had taken place, causing the pillars to give way which were left for the support to the roof, to such an extent that the situation had become alarming. Returning to the foot of the shaft, the mules were ordered to be taken out for safety.

The next morning the officials of the company were notified of the situation and all meet for consultation at the shaft. In examining the surface for any indications, large cracks or crevices were discovered extending along Wyoming avenue about 800 yards south of the shaft and running down to the river.

On May 10, an examination was again made of the inside workings of the Checker and Pittston seams, as hopes were entertained that

the squeeze would stop when it came to the large fault which extended across the property between the squeeze and the shaft in the Pittston seam. In making their examination close to the air shaft in the Pittston vein, a large stream of water was discovered going down the air shaft to the Red Ash vein, which proved beyond doubt that the water from the river was coming into the workings through the crevices in the rock. In trying to get to the large Dunmore pump, situated some distance from the foot of the shaft, to start it, the explorers came in contact with a large body of explosive gas, which drove them back until the foreman and his assistant made a change in the air current and succeeded in clearing it off so that the pump was started in the afternoon, but the water was steadily increasing to such an extent that the pumps in the Red Ash seam stopped from being covered with water. The next day the cages were taken out of the shaft, and large iron tanks, having a capacity of 850 gallons each, were put in to hoist the water, and extra pumps put in at the foot of the air shaft in the Pittston vein to hold the water from coming to the Pittston seam. In my opinion this flow of water could have been controlled if the squeeze had stopped at the fault referred to. A careful watch was kept while the above work was being done, and the discouraging report came that the squeeze had crossed the fault and was fast approaching toward the shafts and so continued until May 29, when the Inspector of the District, considering the risk too great to the working men whose duty it was to attend the pumps, forbade all persons from descending the shaft when all had been done that could be done with safety, as large crevices were discovered close to the boiler room, which extended north of the shaft as far back as the Lehigh Valley Railroad branch, which had settled considerably. The fires were ordered to be drawn from under the boilers, and a locomotive was brought to furnish steam to keep the fans running, as the return air current was charged with explosive gas to such an extent that it would explode in the safety lamp in the fan room.

This condition of affairs continued until June 20, when the officials of the company, who were unceasing in their efforts to handle the large flow of water which was gradually increasing in the shafts, abandoned all work for the present, as all their efforts were of no avail, and allowed the water to rise to its level in the shafts, which, at this writing, has reached within eighty-five feet of the surface or top of the shaft.

How badly the inside workings are damaged cannot be ascertained at present, but from all surface indications a complete subsidence of the entire overlying strata of the old workings has taken place, rendering the air shaft in particular useless for the future. The breaker, which was located over the main hoisting shaft, has settled

considerably, causing some of the large timbers to be broken and others to be twisted out of place. The machinery likewise is thrown out of line, which in all probability will require the building of a new breaker when the mine is reopened.

Colliery Improvements for 1899.

Pennsylvania Coal Company.

At the No. 8 colliery a new washery was erected to wash the culm and prepare it for market. It is equipped with all the latest devices in machinery for cleaning and preparing a large tonnage of the smaller sizes of coal. A steam shovel is used to take the culm from the bank which deposits it into a chute, whence it is taken by a line of conveyors into the washery, where it is washed and prepared for market. A large tonnage of good coal is thus secured from the refuse of former years.

Florence Coal Company, Limited.

This company built an addition to their Elmwood breaker to clean and prepare culm which is taken from the bank. A large supply of good coal is secured, which adds to the tonnage of the company.

Walter B. Gunton, Operator.

A new colliery has been located by the above operator on the estate of the Jackson heirs, in Sullivan county, Pa., and is situated three-quarters of a mile west from the village of Bernice. The colliery consists of a new breaker, which was started to prepare coal in the month of April, 1899, is furnished with good machinery and has a capacity of 500 tons per day.

The opening consists of a drift driven from the surface to the vein, the crop of which is close to the surface and which tapped the old workings formerly operated by the State Line and Sullivan Railroad Company. The coal from the breaker is taken over a branch laid from Lehigh Valley Railroad at Bernice, to market.

North American Coal Company.

This company erected a large washery in the borough of Luzerne, in close proximity to the Raub Coal Company's colliery, to prepare coal from the culm bank of the Mill Hollow colliery. Work was commenced at the building in December, 1898, and finished in May, 1899, and coal was shipped on June 1. The capacity of the washery is 600 tons per day and it employs twenty-three men and boys and is equipped with the most improved machinery for cleaning and preparing coal. All dangerous parts of the machinery are covered or protected by fencing.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Third Anthracite District for 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Barnum No. 1 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
Barnum No. 2 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
Barnum No. 3 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
Laws shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 13 shaft,	Lackawanna,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 9 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 10 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 10, Jr., shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 1 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 8 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 7 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 4 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
Hoyte shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 6 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 5 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 11 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 14 shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 14 tunnels,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
Schooley shaft,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 6 washery,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
No. 8 washery,	Luzerne,	Pennsylvania Coal Company,	George B. Smith,	Dunmore.
Prospect shaft,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Oakwood shaft,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Midvale slope,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Wyoming slope,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Wyoming shaft,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Henry shaft,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Maltby shaft,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Exeter No. 1 shaft,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Exeter No. 2 shaft,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Heidelburg shaft,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Heidelburg slope,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre.
Butler shaft,	Luzerne,	Butler Mine Company, Limited,	S. B. Bennett,	Pittston.
Butler tunnel,	Luzerne,	Butler Mine Company, Limited,	S. B. Bennett,	Pittston.
Chapman shaft,	Luzerne,	Butler Mine Company, Limited,	S. B. Bennett,	Pittston.
Fernwood shaft,	Luzerne,	Butler Mine Company, Limited,	S. B. Bennett,	Pittston.
Fernwood tunnel,	Luzerne,	Butler Mine Company, Limited,	S. B. Bennett,	Pittston.
Hallstead shaft,	Luzerne,	Del., Lackawanna and Western R. R. Co.,	E. E. Loomis,	Scranton.
Pettebone shaft,	Luzerne,	Del., Lackawanna and Western R. R. Co.,	E. E. Loomis,	Scranton.
Harry E shaft,	Luzerne,	Temple Iron Company,	J. L. Crawford,	Scranton.
Forty Fort shaft,	Luzerne,	Temple Iron Company,	J. L. Crawford,	Scranton.
Mt. Lookout shaft,	Luzerne,	Temple Iron Company,	J. L. Crawford,	Scranton.
Babylon shaft,	Luzerne,	Temple Iron Company,	J. L. Crawford,	Scranton.
Babylon tunnel,	Luzerne,	Temple Iron Company,	J. L. Crawford,	Scranton.

TABLE I—Continued.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Twin No. 1 shaft,	Luzerne,	Newton Coal Mining Company,	James Neal,	Pittston.
Twin No. 2 shaft,	Luzerne,	Newton Coal Mining Company,	James Neal,	Pittston.
Seneca shaft,	Luzerne,	Newton Coal Mining Company,	James Neal,	Pittston.
Ravine shaft,	Luzerne,	Newton Coal Mining Company,	James Neal,	Pittston.
Phoenix shaft,	Luzerne,	Old Forge Coal Mining Company,	James Neal,	Pittston.
Columbia shaft,	Luzerne,	Old Forge Coal Mining Company,	James Neal,	Pittston.
Delaware shaft,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton.
Mill Hollow shaft,	Luzerne,	Raub Coal Company,	C. R. Marcy,	Luzerne.
Black Diamond shaft,	Luzerne,	John C. Haddock,	James B. Davis,	Plymouth.
Clear Spring shaft,	Luzerne,	Clear Spring Coal Company,	J. L. Cake,	Pittston.
Elmwood No. 1 shaft,	Luzerne,	Florence Coal Company, Limited,	Charles P. Ford,	Scranton.
Elmwood No. 2 shaft,	Luzerne,	Florence Coal Company, Limited,	Charles P. Ford,	Scranton.
East Boston shaft,	Luzerne,	W. G. Payne & Co.,	William T. Payne,	Kingston.
Ridgewood slope,	Luzerne,	Keystone Coal Company,	John T. Jetter,	Wilkes-Barre.
Avoca shaft,	Luzerne,	Avoca Coal Company,	W. H. Hollister,	Avoca.
Langcliffe shaft,	Luzerne,	Langcliffe Coal Company,	R. G. Brooks,	Scranton.
Langcliffe tunnel,	Luzerne,	Langcliffe Coal Company,	R. G. Brooks,	Scranton.
Laflin shaft,	Luzerne,	Laflin Coal Company,	John Lovering,	Scranton.
Katy Did slope,	Luzerne,	Robertson & Law,	John M. Robertson,	Moosic.
Louise slope,	Luzerne,	Raub Coal Company,	C. R. Marcy,	Luzerne.
Louise tunnel,	Luzerne,	Raub Coal Company,	C. R. Marcy,	Luzerne.
Pine Ridge shaft,	Luzerne,	Algonquin Coal Company,	George T. Nealley,	Wilkes-Barre.
Laurel Run slope,	Luzerne,	Laurel Run Coal Company,	George T. Nealley,	Wilkes-Barre.
Bernice drift,	Sullivan,	State Line and Sullivan Railroad Company,	O. A. Baldwin,	Fewanda.
Stevens slope,	Luzerne,	Stevens Coal Company,	Henry W. Kingsbury,	Scranton.
Stevens shaft,	Luzerne,	Stevens Coal Company,	Henry W. Kingsbury,	Scranton.
Griffith tunnel,	Luzerne,	Wyoming Coal and Land Company,	F. H. Clemans,	Scranton.
Gardner Creek tunnel,	Luzerne,	Gardner Creek Coal Company,	C. B. Sturges,	Wilkes-Barre.
Miners' tunnel,	Luzerne,	W. B. Miner,	W. B. Miner,	Wilkes-Barre.
Crescent tunnel,	Luzerne,	Crescent Coal Company.		
Lykens drift,	Sullivan,	W. B. Gunton,	Walter B. Gunton,	Bernice.
Bennett washery,	Luzerne,	North American Coal Company,	A. R. Anthony,	Wilkes-Barre.
Luzerne washery,	Luzerne,	North American Coal Company,	A. R. Anthony,	Wilkes-Barre.
Brookside washery,	Luzerne,	Brookside Coal Company.		

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Barnum No. 1 shaft,	Alexander Bryden,	Dunmore,	James Young,	Henry T. McMillan,	Redrick T. Bliss.
Barnum No. 2 shaft,	Alexander Bryden,	Dunmore,	James Young,	Henry T. McMillan,	
Barnum No. 3 shaft,	Alexander Bryden,	Dunmore,	James Young,	David Laird,	
Laws shaft,	Alexander Bryden,	Dunmore,	James Young,	John Allan,	George M. Snyder.
No. 13 shaft,	Alexander Bryden,	Dunmore,	James Young,	David Alexander,	George M. Snyder.
No. 9 shaft,	Alexander Bryden,	Dunmore,	James Young,	Samuel Anderson,	James White.
No. 10 shaft,	Alexander Bryden,	Dunmore,	James Young,	William Abbott,	James White.
No. 10, Jr., shaft,	Alexander Bryden,	Dunmore,	James Young,	David Bell,	James White.
No. 1 shaft,	Alexander Bryden,	Dunmore,	James Young,	Alexander Thompson,	Patrick Melvin.
No. 8 shaft,	Alexander Bryden,	Dunmore,	James Young,	Alexander Thompson,	Patrick Melvin.
No. 7 shaft,	Alexander Bryden,	Dunmore,	James Young,	John W. Thompson,	Henry Matthewson.
No. 4 shaft,	Alexander Bryden,	Dunmore,	James Young,	William Campbell,	Henry Matthewson.
Heyle shaft,	Alexander Bryden,	Dunmore,	James Young,	James Heslin,	Henry Matthewson.
No. 6 shaft,	Alexander Bryden,	Dunmore,	James Young,	John F. Reynolds,	Richard Howard.
No. 5 shaft,	Alexander Bryden,	Dunmore,	James Young,	James Harding,	Richard Howard.
No. 11 shaft,	Alexander Bryden,	Dunmore,	James Young,	Richard Appleby,	Richard Howard.
No. 12 shaft,	Alexander Bryden,	Dunmore,	James Young,	Henry Jopling,	Charles Matthewson.
No. 14 tunnels,	Alexander Bryden,	Dunmore,	James Young,	John M. Dobbie,	Charles Matthewson.
Schooley shaft,	Alexander Bryden,	Dunmore,	James Young,	Richard Appleby,	John F. Tench.
No. 6 washery,	Alexander Bryden,	Dunmore,	James Young,		William Matthewson.
No. 8 washery,	Alexander Bryden,	Dunmore,	James Young,		John F. Tench.
Prospect shaft,	Eli T. Conner,	Wilkes-Barre,	Robert Shoemaker, outside; Joseph J. Jones, inside.	David J. Morgan,	S. V. Tench.
Oakwood shaft,	Eli T. Conner,	Wilkes-Barre,		David Richards,	S. V. Tench.
Midvale slope,	Eli T. Conner,	Wilkes-Barre,		John Williams,	S. V. Tench.
Wyoming slope,	Eli T. Conner,	Wilkes-Barre,	do. do.	Evan Price,	Edward Rhoads.
Wyoming shaft,	Eli T. Conner,	Wilkes-Barre,	do. do.	Evan Price,	Edward Rhoads.
Henry shaft,	Eli T. Conner,	Wilkes-Barre,	do. do.	Evan Price,	Edward Rhoads.
Maltby shaft,	Eli T. Conner,	Wilkes-Barre,	do. do.	John Morris,	J. B. S. Keeler.
Exeter No. 1 shaft,	Eli T. Conner,	Wilkes-Barre,	W. D. Owens,	Thomas Thomas,	B. H. Nisbit.
Exeter No. 2 shaft,	Eli T. Conner,	Wilkes-Barre,	W. D. Owens,	Thomas Thomas,	B. H. Nisbit.
Heidelburg shaft,	Eli T. Conner,	Wilkes-Barre,	W. D. Owens,	Rodger Hines,	Joseph Wintle.
Heidelburg slope,	Eli T. Conner,	Wilkes-Barre,	W. D. Owens,	David P. Thomas,	Charles Smith.
Butler shaft,			Joseph Meytrott,	Daniel Brady,	George Ruane.
Butler tunnel,			Joseph Meytrott,	James Wilson,	George Ruane.
Chapman shaft,			Joseph Meytrott,	John E. Daley,	George Ruane.
Fernwood shaft,			Joseph Meytrott,	Bernard Holleran,	George Kaueffer.
Fernwood tunnel,			Joseph Meytrott,	Dominick Holleran,	George Kaueffer.
Hallstead shaft,	Evan J. Evans,	Scranton,		Thomas R. Thomas,	H. A. Fillmore.
Pettebone shaft,	Montrose Barnard,	Wilkes-Barre,		John E. Jones,	F. H. Samson.
Harry E shaft,	Richard Manwaring,	Pittston,		Daniel Sullivan,	M. Bonham.
Forty Fort shaft,	Gilbert S. Jones,	Pittston,		A. Reese,	M. Bonham.
Mt Lookout shaft,	Gilbert S. Jones,	Pittston,		William A. Thomas,	E. E. Ross.
Babylon shaft,	Gilbert S. Jones,	Pittston,		J. J. McCarty,	H. Matthewson.
Babylon tunnel,	Gilbert S. Jones,	Pittston,		J. J. McCarty,	

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Twin No. 1 shaft,			Griffith G. Thomas,	James Allan,	Thomas O. Brine.
Twin No. 2 shaft,			Griffith G. Thomas,	John F. Hefferon,	Thomas O. Brine.
Seneca shaft,			Griffith G. Thomas,	William G. Hailstone,	Thomas O. Brine.
Ravine shaft,			Griffith G. Thomas,	William G. Hailstone,	
Phoenix shaft,			Charles Ackman,	Patrick Agin,	Jeremiah Dewyer.
Columbia shaft,			Charles Ackman,	William T. Clark,	Jeremiah Dewyer.
Delaware shaft,	E. R. Pettebone,	Scranton,	John B. Davis,	Arthur Caswell,	George Shiffer.
Mill Hollow shaft,				William J. Bugelholl,	James Davinport.
Black Diamond shaft,				Patrick Kelley,	George D. Carey.
Clear Spring shaft,				George O. Thomas,	J. P. McDermott.
Elmwood No. 1 shaft,				William Mucklow,	O. M. Bittler.
Elmwood No. 2 shaft,				William Mucklow,	O. M. Bittler.
East Boston,	Wm. O. Williams,	Dorranceton,		Peter Henderson and James Wallace.	P. A. Watt.
Ridgewood slope,				Thomas Coates.	William J. Strange.
Avoca shaft,				Solomon Deeble,	C. B. Hollister.
Langcliffe shaft,	John Lovering,	Scranton,		David D. Davis,	M. C. Halloran.
Langcliffe tunnel,	John Lovering,	Scranton,		David D. Davis,	M. C. Halloran.
Ladlin shaft,				Rowland Davis,	O. M. Hobbs.
Katy Did slope,				John Hastic,	John C. Monie.
Louise slope,				Wm. J. Bugelholl,	James Davinport.
Louise tunnel,				Wm. J. Bugelholl,	James Davinport.
Pine Ridge shaft,				John D. Colvin,	Dennis McCarthey.
Laurel Run slope,				William Morgan,	Thomas Govier.
Bernice drift,	R. E. Auston,	Towanda,		Robert Guy,	John A. Dickson.
Stevens slope,	David W. Evans,	Pittston,		Thomas B. Evans,	John Miller.
Stevens shaft,	David W. Evans,	Pittston,		Samuel C. Jones,	John Miller.
Griffith tunnel,				George P. Davis,	John Gillegan.
Gardner Creek tunnel,				Henry G. Williams,	Richard J. Griffith.
Miner's tunnel,				John Kelley,	
Crescent tunnel,			Stephen Johns,	David Williams,	Robert Suglis.
Lykens drift,				William Johnson,	W. B. Gunton.
Bennett washery,	James T. Sharkey,	Pittston,			Thomas Bergan.
Luzerne washery,	James T. Sharkey,	Pittston,			H. H. McAree.
Brookside washery,			Charles Walters,		H. Jennings.

TABLE II—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Third Anthracite District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Pennsylvania Coal Co.												
Baroum shafts, Nos. 1, 2 and 3,	Luzerne,	263,526.10	8,117	.....	271,643.10	183.75	585	1	6	9,991	146	33
Laws and No. 13 shafts,	Luzerne,	196,129.17	8,007	.....	204,136.17	180.50	474	.....	2	4,854	775	43
Nos. 9, 10 and 10, Jr., shafts,	Luzerne,	192,091.18	15,137	.....	207,228.18	180	501	2	4	6,117	1,099	62
Nos. 1 and 8 shafts,	Luzerne,	132,441.02	3,060	.....	135,501.02	179.50	352	2	2	3,983	794	38
Nos. 7, 4 and Hoyte shafts,	Luzerne,	241,323.18	15,054	.....	256,377.18	177.75	737	.....	6	9,222	1,573	66
Nos. 5, 6 and 11 shafts,	Luzerne,	248,841.14	10,511	.....	259,355.14	167.75	805	3	14	8,317	6,179	83
No. 11 shaft and tunnel,	Luzerne,	213,495.05	11,418	.....	224,913.05	174.50	513	2	1	5,382	1,276	59
Schooley shaft,	Luzerne,	46,918.11	5,215	.....	52,133.11	60	.....	.....	3	2,611	630	.....
No. 6 washery,	Luzerne,	21,689.09	14,066	.....	35,755.09	100.20	24	.....	1	.....	.....	1
No. 8 washery,	Luzerne,	31,066.16	5,157	.....	36,223.16	87.30	51	1	.....	.....	.....	1
Total,		1,587,528.00	95,742	.....	1,683,270.00	*174.80	4,052	11	48	51,607	12,772	391
Lehigh Valley Coal C.												
Prospect, Oakwood,	Luzerne,	226,861.07	23,739	4,588.10	255,188.17	140.10	782	2	11	4,968	29,768	96
Midvale, Henry and Wyoming shafts,	Luzerne,	139,231.03	26,250	3,424.12	168,905.15	34.35	296	1	4	4,353	1,642	66
Maltby shaft,	Luzerne,	214,824.05	20,186	3,284.07	238,294.12	155.05	494	1	16	7,588	8,588	70
Exeter, Nos. 1 and 2, shafts,	Luzerne,	244,284.15	15,065	12,646.00	271,995.15	158.85	549	1	6	6,218	66,137	82
Heidelburg shaft,	Luzerne,	139,271.10	11,880	1,781.14	152,933.04	174.60	320	1	.....	5,046	6,595	38
Heidelburg slope,	Luzerne,	131,463.18	6,510	1,000.00	138,973.18	171.30	291	.....	.....	3,769	1,654	45
Total,		1,095,936.18	103,630	26,725.03	1,226,292.01	*159.98	2,732	6	37	31,740	114,234	397
Butler Mine Co., Limited.												
Butler and Chapman shafts,	Luzerne,	112,389.10	6,255	1,367.04	120,011.14	185.60	451	3	4	5,252	1,810	40
Fernwood shaft and tunnel,	Luzerne,	89,210.11	6,788	760.18	96,759.09	194.50	418	.....	4	3,628	8,590	39
Total,		201,600.01	13,043	2,128.02	216,771.03	*190	869	3	8	8,880	10,300	79

TABLE II— Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Dela., Lacka. and Western R. R. Co.												
Hallstead shaft,	Luzerne,	88,577.18	17,840	1,631.12	108,049.10	162.70	293	.....	5	5,179	717	46
Pettebone shaft,	Luzerne,	230,475.15	14,600	4,626.03	249,701.18	182.90	716	3	11	6,645	5,250	80
Total,		319,053.13	32,440	6,257.15	357,751.08	*172.80	1,009	3	16	11,824	5,967	126
Temple Iron Co.												
Harry E and Forty Fort shafts,	Luzerne,	316,427.02	35,080	2,107.14	353,612.16	238.25	686	5	11	10,957	4,700	133
Mt. Lookout shaft,	Luzerne,	155,729.09	20,911	3,361.19	180,002.08	116.45	70	6	5	6,473	6,500	82
Babylon shaft and tunnels,	Luzerne,	132,915.11	11,192	1,032.19	145,140.10	123.20	483	1	.....	3,376	2,500	63
Total,		605,070.02	67,183	6,502.12	678,755.14	*159.30	1,239	12	16	20,806	13,700	278
Newton Coal Mining Co.												
Twin Nos. 1 and 2, shafts,	Luzerne,	144,545.12	40,000	15,831.12	200,377.04	150.60	583	3	6	7,700	5,000	71
Seneca and Ravine shafts,	Luzerne,											
Total,		144,545.12	40,000	15,831.12	200,377.04	150.60	583	3	6	7,700	5,000	71
Miscellaneous Coal Companies.												
Old Forge Coal Co.												
Phœnix and Columbia shafts,	Luzerne,	141,271.05	25,000	1,134.17	167,406.02	169.70	276	.....	4	3,739	26,200	57
Delaware and Hudson Coal Co.												
Delaware shaft,	Luzerne,	119,190.06	18,545	3,205.05	140,940.11	142.10	384	3	3	4,298	1,728	50
Raub Coal Co.												
Mill Hollow shaft,	Luzerne,	18,938.16	3,000	956.17	22,895.13	56.50	.....	.....	.....	800	.....	.....
John C. Haddock												
Black Diamond shaft,	Luzerne,	111,775.03	32,000	6,258.17	150,034.00	177	320	3	4	3,142	18,850	37

Clear Spring Coal Co. Clear Spring shaft,	Luzerne,	189,573.17	10,200	17,754.09	217,528.06	217.45	610	.....	.....	7,862	5,400	64
Florence Coal Co. Elmwood Nos. 1 and 2 shafts,	Luzerne,	70,174.01	11,000	2,650.19	83,824.00	136.30	246	.....	4	2,441	250	30
W. G. Payne & Co. East Boston shaft,	Luzerne,	186,028.16	11,252	4,803.00	202,063.16	175.20	659	1	11	5,796	1,150	34
Keystone Coal Co. Ridgewood shaft,	Luzerne,	50,342.18	8,100	823.00	59,265.18	112.50	221	2	5	4,000	1,200	38
Avoca Coal Co. Avoca shaft,	Luzerne,	47,361.00	3,189	3,372.17	53,922.17	140.00	284	2	2	2,432	2,100	35
Lancliffe Coal Co. Lancliffe shaft and tunnel,	Luzerne,	115,651.11	5,980	968.00	122,579.11	182.80	340	.....	5	4,936	1,414	52
Laflin Coal Co. Laflin shaft,	Luzerne,	78,442.17	8,184	1,980.12	88,607.09	89.80	245	1	6	4,027	12,000	38
Robertson & Law. Katy Dol slope,	Luzerne,	80,526.00	2,700	1,346.00	84,572.00	144	181	.....	1	2,139	2,000	21
Raub Coal Co. Louise slope and tunnel,	Luzerne,	122,389.10	4,500	4,892.03	131,782.02	165.30	500	3	1	5,187	9,100	50
Algonquin Coal Co. Pine Ridge shaft,	Luzerne,	194,107.00	18,000	5,344.00	217,451.00	199.75	559	3	7	6,612	2,000	51
Laurel Run Coal Co. Laurel Run slope,	Luzerne,	101,321.00	7,500	2,780.00	111,601.00	158.70	400	1	5	3,800	2,500	51
Sullivan Railroad Co. Bernice drift,	Sullivan,	158,637.69	4,009	1,568.15	163,355.04	269	351	1	2	3,042	1,250	40
W. B. Gunton. Lykens drift,	Sullivan,	9,639.08	380	1,914.10	11,933.18	78	114	.....	.....	269	.....	8
Stevens Coal Co. Stevens shaft and slope,	Luzerne,	147,132.10	16,545	3,203.10	166,881.00	112.20	350	1	10	5,384	4,200	48
Wyoming Coal and Land Co. Griffith tunnel,	Luzerne,	71,557.17	11,380	1,641.10	84,579.07	137.40	294	2	1	4,460	12,193	35
Gardner Creek Coal Co. Gardner Creek tunnel,	Luzerne,	32,585.11	4,500	351.00	37,436.11	170.90	126	.....	4	1,823	750	5
W. B. Miner. Miner's tunnel,	Luzerne,	4,580.11	.....	.....	4,580.11	.....	.....	.....	.....	350	100	.....
Crescent Coal Co. Crescent tunnel,	Luzerne,	16,962.05	1,600	60.00	18,612.05	70.95	88	.....	3	1,123	350	9

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
North American Coal Co.												
Bennett's washery,	Luzerne,	76,908.00	3,650	2,605.00	83,163.00	281	22	1	.....	.....	.....	2
Luzerne washery,	Luzerne,	29,251.00	1,370	1,442.00	32,063.00	137	23	.....	.....	.....	.....	.....
Total,		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brookside Coal Co.												
Brookside washery,	Luzerne,	52,334.13	1,870	.....	54,204.13	187.50	29	.....	.....	.....	.....	.....
Total,		2,206,053.13	214,434	71,006.01	2,491,493.14	*158.95	6,672	24	78	77,763	104,735	755

Recapitulation.

Pennsylvania Coal Co.,	1,587,528.00	95,742	.....	1,683,270.00	174.80	4,052	11	48	51,607	12,752	391
Lehigh Valley Coal Co.,	1,095,936.18	103,630	26,725.63	1,226,292.01	159.98	2,732	6	37	21,740	114,234	397
Butler Mine Co., Limited,	201,600.01	13,043	2,128.02	216,771.03	190	869	3	8	8,880	10,300	79
Del., Lacka. and Western R. R. Co.,	319,053.13	32,440	6,257.15	357,751.08	172.80	1,609	3	16	11,824	5,967	126
Temple Iron Co.,	605,070.02	67,183	6,502.12	678,755.14	159.30	1,239	12	16	20,806	13,700	278
Newton Coal Mining Co.,	144,545.12	40,000	15,831.12	200,377.04	150.60	583	3	6	7,700	5,000	71
Miscellaneous coal companies,	2,206,053.13	214,434	71,006.01	2,491,493.14	158.95	6,672	24	78	77,763	104,735	755
Total,	6,159,787.19	566,472	128,451.05	6,854,711.04	*166.63	17,156	62	206	210,329	266,688	2,097

*Average time for the year.

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number of steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
Pennsylvania Coal Co.																
Parrum shafts, Nos. 1, 2 and 3,	Luzerne,	.....	.....	6	900	900	.....	.....	.....	19	889	1	440	126	.....	.....
Laws and No. 13 shafts,	Luzerne,	17	680	.....	.....	680	1	.....	.....	20	918	5	3,162	2,992	.....	.....
Nos. 9, 10 and 10, Jr., shafts,	Luzerne,	.....	.....	10	1,500	1,500	.....	.....	.....	23	815	4	2,820	1,625	.....	1
Nos. 1 and 8 shafts,	Luzerne,	5	200	3	430	630	.....	.....	.....	15	616	1	300	250	.....	.....
Nos. 7, 4 and Hoyte shafts,	Luzerne,	.....	.....	12	1,750	1,750	4	.....	.....	30	1,553	3	1,889	1,749	.....	1
Nos. 5, 6 and 11 shafts,	Luzerne,	21	840	6	900	1,740	1	.....	.....	23	1,204	.....	.....	.....	.....	1
No. 14 shaft and tunnels,	Luzerne,	4	160	5	750	910	1	1	.....	25	1,074	12	1,255	1,255	.....	2
Schooley shaft,	Luzerne,	.....	.....	7	1,050	1,050	.....	1	.....	15	580	3	732	332	.....	1
No. 6 washery,	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	8	440	3	.....	.....	.....	.....
No. 8 washery,	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	5	275	4	.....	.....	.....	.....
Total,		47	1,880	49	7,280	9,160	7	2	.....	183	8,364	25	10,538	8,289	.....	6
Lehigh Valley Coal Co.																
Prospect, Oakwood,	Luzerne,	.....	.....	7	1,750	1,750	2	.....	.....	24	3,700	2	1,500	600	1	1
Midvale, Henry and Wyoming shafts,	Luzerne,	.....	.....	7	1,750	1,750	3	.....	.....	17	1,956	3	1,424	511	.....	3
Maltby shaft,	Luzerne,	18	702	5	700	1,402	.....	.....	.....	12	1,410	3	1,340	1,000	1	.....
Exeter Nos. 1 and 2 shafts,	Luzerne,	.....	.....	7	1,050	1,050	2	.....	.....	18	3,960	4	5,000	5,000	.....	.....
Heidelburg shaft,	Luzerne,	.....	.....	6	1,042	1,042	.....	.....	.....	13	1,042	3	2,953	2,953	.....	.....
Heidelburg slope,	Luzerne,	9	360	.....	.....	360	.....	.....	.....	8	589	2	722	610	.....	.....
Total,		27	1,062	32	6,292	7,354	7	.....	.....	92	12,657	17	12,939	10,674	2	4
Butler Mine Co., Limited.																
Butler and Chapman shafts,	Luzerne,	13	356	3	150	506	2	.....	.....	8	610	6	2,500	700	.....	.....
Fernwood shaft and tunnel,	Luzerne,	12	300	2	160	460	.....	.....	.....	10	750	2	1,000	525	.....	.....
Total,		25	656	5	310	966	2	.....	.....	18	1,360	8	3,500	1,225	.....	.....

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number of steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
Dela., Lacka. and West. R. R. Co.																
Hallstead shaft,	Luzerne,	23	460	3	405	865	.....	.....	.....	10	714	4	5,000	2,500	.....	.....
Pettebone shaft,	Luzerne,	18	540	4	600	1,140	.....	.....	.....	20	1,545	6	3,840	640	.....	.....
Total,		41	1,000	7	1,005	2,005	.....	.....	.....	30	2,259	10	8,840	3,140	.....	.....
Temple Iron Co.																
Harry E and Forty Fort shafts,	Luzerne,	.....	.....	12	2,075	2,075	1	.....	.....	31	2,500	3	1,800	1,200	.....	1
Mt. Lookout shaft,	Luzerne,	18	900	6	900	1,800	1	.....	3	16	1,090	3	8,000	2,900	4	2
Babylon shaft and tunnels,	Luzerne,	12	600	2	475	1,075	2	.....	.....	25	8,400	2	800	650	.....	2
Total,		30	1,500	20	3,450	4,950	4	.....	3	72	11,990	8	10,600	4,750	4	5
Newton Coal Mining Co.																
Twin Nos. 1 and 2 shafts,	Luzerne,	36	1,235	1	100	1,335	4	.....	.....	22	1,040	16	7,000	4,000	.....	.....
Seneca and Ravine shafts,	Luzerne,															
Total,		36	1,235	1	100	1,335	4	.....	.....	22						
Miscellaneous Coal Companies.																
Old Forge Coal Co.																
Phoenix and Columbia shafts,	Luzerne,	12	510	4	350	860	.....	.....	.....	13	636	2	930	930	1	.....
Delaware and Hudson Coal Co.																
Delaware shaft,	Luzerne,	15	450	5	750	1,200	.....	.....	.....	17	1,310	3	1,760	1,250	.....	1
Raub Coal Co.																
Mill Hollow shaft,	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
John C. Haddock																
Black Diamond shaft,	Luzerne,	15	288	10	1,070	1,358	1	.....	.....	36	1,902	3	1,580	1,000	.....	1

Clear Spring Coal Co.																
Clear Spring shaft,	Luzerne,	6	200	4	600	800	.....	.....	.....	8	800	2	1,200	600	.....	.....
Florence Coal Co.																
Elmwood Nos. 1 and 2 shafts,	Luzerne,	14	350	3	150	500	1	.....	.....	12	363	6	2,600	1,800	.....	.....
W. G. Payne & Co.																
East Boston shaft,	Luzerne,	24	444	2	200	644	.....	.....	.....	12	1,270	1	2,000	1,200	.....	1
Keystone Coal Co.																
Ridgewood shaft,	Luzerne,	8	160	2	190	350	.....	.....	.....	10	315	2	500	400	.....	.....
Avoca Coal Co.																
Avoca shaft,	Luzerne,	6	90	3	92	182	.....	.....	.....	5	370	1	485	485	.....	.....
Langcliffe Coal Co.																
Langcliffe shaft and tunnel,	Luzerne,	9	315	1	62	377	1	.....	.....	9	491	1	688	488	.....	.....
Laflin Coal Co.																
Laflin shaft,	Luzerne,	.....	.....	5	450	450	1	.....	.....	7	796	3	1,044	639	.....	.....
Robertson & Law.																
Katy Did slope,	Luzerne,	.....	.....	5	320	320	1	.....	.....	5	153	.....	.....	.....	.....	1
Raub Coal Co.																
Louise slope and tunnel,	Luzerne,	13	1,020	5	610	1,630	1	.....	.....	9	1,295	1	600	300	.....	.....
Algonquin Coal Co.																
Pine Ridge shaft,	Luzerne,	.....	.....	5	1,150	1,150	.....	.....	.....	9	1,200	2	3,000	2,300	.....	.....
Laurel Run Coal Co.																
Laurel Run slope,	Luzerne,	.....	.....	2	500	500	.....	.....	.....	8	500	.....	.....	.....	.....	1
Sullivan Railroad Co.																
Bernice drift,	Sullivan,	8	620	.....	.....	620	2	.....	1	8	160	5	1,228	812	2	.....
W. B. Gunton.																
Lykens drift,	Sullivan,	.....	.....	2	150	150	.....	.....	.....	1	100	.....	.....	.....	.....	.....
Stevens Coal Co.																
Stevens shaft and slope,	Luzerne,	12	350	7	950	1,300	1	.....	.....	9	2,245	3	4,700	3,000	.....	1
Wyoming Coal and Land Co.																
Griffith tunnel,	Luzerne,	.....	.....	5	525	525	1	.....	.....	9	450	2	240	110	.....	1
Gardner Creek Coal Co.																
Gardner Creek tunnel,	Luzerne,	.....	.....	5	350	350	1	.....	.....	6	290	2	350	180	.....	.....
W. B. Miner.																
Miner's tunnel,	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crescent Coal Co.																
Crescent tunnel,	Luzerne,	1	80	.....	.....	80	.....	.....	.....	1	75	.....	.....	.....	.....	.....

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number of steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
North American Coal Co.																
Bennett's washery,	Luzerne,	.....	.....	2	200	200	.....	.....	.....	2	165	.....	.....	.....	.....	.....
Luzerne washery,	Luzerne,	.....	.....	2	250	250	.....	.....	.....	2	140	.....	.....	.....	.....	.....
Total,		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Brookside Coal Co.																
Brookside washery,	Luzerne,	2	120	.....	.....	120	.....	.....	.....	4	175	.....	.....	.....	.....	.....
Total,		145	4,997	79	8,919	13,916	11	.....	1	202	15,201	29	22,905	15,494	3	7

[1] Average time worked for the year.
[2] This colliery passed into the possession of the Raub Coal Company on May 31, 1899.

Recapitulation.

Pennsylvania Coal Co.,		47	1,880	49	7,280	9,160	7	2	.....	183	8,361	23	10,708	8,289	.....	6
Lehigh Valley Coal Co.,		27	1,062	32	6,292	7,354	1	.....	.....	92	12,057	17	12,509	10,673	2	4
Butler Mine Co., Limited,		25	650	5	210	860	2	.....	.....	18	1,260	6	3,700	1,225	.....	.....
Del., Lacka. and West. R. R. Co.,		41	1,060	7	1,005	2,065	.....	.....	.....	30	2,259	10	8,810	3,140	.....	.....
Temple Iron Co.,		20	1,500	20	3,450	4,950	4	.....	3	72	14,560	8	16,600	4,750	4	5
Newton Coal Mining Co.,		36	1,225	1	100	1,325	4	.....	.....	22	1,040	16	7,000	4,000	.....	.....
Miscellaneous coal companies,		145	4,997	79	8,919	13,916	11	.....	1	202	15,201	29	22,905	15,494	3	7
Total,		351	12,324	193	27,356	39,680	35	2	4	619	52,871	122	76,332	47,572	9	22

TABLE III—Showing the number of each class of employes at each colliery in the Third Anthracite District during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Pennsylvania Coal Co.																
Barnum shafts, Nos. 1, 2 and 3,	2	4	167	168	55	21	25	442	1	5	15	64	2	56	143	585
Shaft No 13 and Laws shaft,	2	4	136	135	36	10	24	347	1	4	19	53	1	49	127	474
Shafts Nos. 9, 10 and 10, Jr.,	3	4	135	132	55	14	35	378	1	4	18	53	1	46	123	501
Shafts Nos. 1 and 8,	1	2	98	94	35	8	14	252	1	3	10	51	1	34	100	352
Shafts Nos. 7, 4 and Hoyte shaft,	3	8	211	187	62	29	31	531	1	6	29	104	2	64	206	737
Shafts Nos. 5, 6 and 11,	3	6	281	201	64	21	45	621	1	4	19	90	1	69	184	805
No. 14 shaft and tunnels,	3	5	139	123	49	13	21	353	1	4	22	76	2	55	160	513
Schooley shaft,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	5	10	1	17	34	34
No. 6 washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	7	16	1	26	51	51
No. 8 washery,	.....	.....	.....	.....	.....	.....	.....	.....								
Total,	17	33	1,167	1,040	356	116	195	2,924	9	30	144	517	12	416	1,128	4,052
Lehigh Valley Coal Co.																
Prospect, Oakwood and Wyoming shafts,	3	8	135	104	71	25	171	517	1	15	18	40	5	186	265	782
Wyoming and Midvale slopes and Henry shaft,	3	3	79	63	39	8	41	236	1	7	13	.....	2	37	60	296
Maltby shaft,	2	5	170	45	49	11	49	331	1	9	15	41	3	94	163	494
Exeter Nos. 1 and 2 shafts,	1	4	155	86	52	10	48	356	1	9	14	62	4	103	193	549
Heidelburg shaft,	1	1	69	55	28	1	17	172	1	6	8	70	3	60	148	320
Heidelburg slope,	1	1	75	37	24	.....	17	155	1	5	6	71	4	49	136	291
Total,	11	22	683	390	263	55	343	1,767	6	51	74	284	21	529	965	2,732

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foremen.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Butler Mine Co., Limited.																
Butler and Chapman shafts and tunnel, ..	3	2	134	69	55	5	27	295	1	7	10	91	2	45	176	471
Pettebone shaft and tunnel, ...	2	1	102	79	48	8	26	267	1	5	6	100	1	38	151	418
Total, ...	5	3	236	139	103	13	63	562	2	12	16	191	3	83	327	889
Del., Lacka. and Western R. R. Co.																
Hallstead shaft, ...	1	3	74	56	28	7	28	196	1	3	12	47	1	33	97	293
Pettebone shaft, ...	2	3	178	170	68	22	98	541	1	7	14	80	2	71	175	716
Total, ...	3	5	252	226	96	29	126	737	2	19	26	127	3	104	272	1,009
Temple Iron Co.																
Harry E. and Forty Fort shafts, ...	2	4	218	130	73	24	71	522	1	12	12	77	5	57	164	686
Mt. Lookout shaft, ...	1	.....	8	7	3	.....	8	27	1	3	12	...	2	23	43	70
Babylon shaft and tunnels, ...	1	2	149	124	41	10	25	352	1	7	8	47	4	66	131	483
Total, ...	4	6	375	261	117	34	104	901	3	22	32	124	11	146	338	1,239
Newton Coal Mining Co.																
Twin Nos. 1 and 2 Seneca and Ravine shafts, ...	3	4	140	140	44	18	49	397	1	9	19	77	4	76	186	583
Total, ...	3	4	140	140	44	18	49	397	1	9	19	77	4	76	186	583

Miscellaneous Coal Companies.																
Phoenix and Columbia shafts,	3	2	110	58	44	9	22	248	1	5	10	62	5	45	128	376
Mill Hollow shaft,																
Black Diamond shaft,	1	4	51	49	45	9	20	179	1	5	15	66	3	51	141	320
Clear Spring shaft,	2	4	156	156	59	23	60	476	1	5	9	61	4	54	134	610
Elmwood Nos. 1 and 2 shafts,	1	1	40	42	22	1	14	121	1	4	11	55	4	20	95	216
East Boston shaft,	2	4	116	90	74	17	63	366	1	3	14	78	4	173	273	639
Ridgewood slope,	1	2	67	44	26	7	14	161	1	3	4	29	2	21	60	221
Avoca shaft,	1	1	65	45	44	13	24	193	1	4	5	49	2	30	91	284
Langcliffe shaft and tunnel,	1	1	93	72	41	4	29	241	1	6	7	45	2	38	99	340
Ladin shaft,	1	1	71	69	19	4	17	173	1	3	5	32	2	29	72	245
Katy Did slope,	1	.....	45	45	16	1	6	114	1	2	7	30	4	23	67	181
Louise slope and tunnel,	2	2	166	95	43	7	40	355	1	9	13	70	3	49	145	500
Pine Ridge shaft,	3	4	120	116	59	3	50	366	1	6	10	112	1	63	193	559
Laurel Run slope,	2	2	83	81	47	12	10	267	1	5	7	78	1	41	133	400
Delaware shaft,	1	4	64	74	39	9	44	235	1	6	14	87	1	40	149	384
Bernice drifts,	1	.....	161	.....	20	11	32	225	1	7	10	25	3	67	113	351
Stevens shaft and slope,	2	1	89	65	32	6	33	228	1	5	11	50	5	50	122	350
Griffith tunnel,	1	.....	89	50	27	7	15	189	1	5	6	63	3	36	114	294
Gardner Creek tunnel,	1	1	57	27	9	.....	8	83	1	3	10	19	.....	10	43	126
Miner's tunnel,																
Crescent tunnel,	1	1	26	11	10	5	1	55	1	2	2	16	1	11	33	88
Lykens drift,	1	.....	59	25	6	.....	2	84	.....	2	2	15	1	10	30	114
Bennett's washery,									1	1	4	4	2	10	22	22
Luzerne washery,									1	.....	4	4	2	12	23	23
Brookside washery,									1	.....	4	.....	.....	24	29	29
Total,	29	35	1,690	1,295	693	167	544	4,363	22	91	184	1,050	55	907	2,309	6,672

Recapitulation.

Pennsylvania Coal Co.,	17	33	1,167	1,040	356	116	195	2,924	9	30	144	517	12	416	1,128	4,052
Lehigh Valley Coal Co.,	11	22	683	390	263	55	343	1,767	6	51	74	284	21	529	965	2,732
Butler Mine Co., Limited,	5	3	236	139	103	13	62	562	2	12	16	191	3	83	367	869
Delaware, Lacka. and Western R. R. Co.,	3	5	252	226	96	29	126	737	2	10	26	127	3	104	272	1,009
Temple Iron Co.,	1	6	375	261	117	34	104	901	3	22	32	124	11	146	338	1,239
Newton Coal Mining Co.,	2	3	149	146	44	18	49	397	1	9	19	77	4	76	186	583
Miscellaneous coal companies,	29	35	1,690	1,295	693	167	544	4,363	22	91	184	1,050	55	907	2,309	6,672
Total,	72	107	4,552	3,501	1,672	432	1,424	11,651	45	225	495	2,370	109	2,261	5,505	17,156

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Pennsylvania Coal Co.													
Barnum shafts, Nos. 1, 2 and 3,	15	13.50	13.75	12	16.25	17.75	16.25	13.75	13	19.25	17	16.25	183.75
Shaft No 13 and Laws shaft,	13.25	14.50	11.75	11.25	16.25	16	17.75	15.25	14	18.50	15	17	180.50
Shafts Nos. 9, 10 and 10, Jr.,	13.25	11.50	10.50	13.50	12.75	18.25	16.25	17.25	12.50	18.50	18.75	17	180
Shafts Nos. 1 and 8,	14.75	13.25	10.50	15	12.25	16	15.75	15.50	13.25	19.50	18.25	15.50	179.50
Shafts Nos. 7, 4 and Hoyte shaft,	13.50	7.50	7.50	7.50	6.75	16.25	17	16	12.75	17.25	18.50	17.25	157.75
Shafts Nos. 5, 6 and 11,	11.75	9	10.25	7.50	9	16.75	15.50	18	15.50	18.50	18.25	17.75	167.75
No. 14 shaft and tunnels,	.....	13.75	18	11.25	16.25	17	13.50	18.25	13.50	18.75	15.50	18.75	174.50
Schooley shaft,	17.50	15	12.50	11.25	3.75	.....	.....	.....	.....	.....	.....	.....	60
No. 6 washery,	7	17.70	22.80	24.10	22.90	.....	.....	.....	.....	.....	.....	5.70	100.20
No. 8 washery,	.....	.....	.....	.....	.....	.....	.....	.....	20.50	23.40	21.50	21.90	87.30
Average,	13.25	12.85	13.05	12.55	12.90	16.85	16	16.30	14.35	19.20	17.70	16.10	†174.82
Lehigh Valley Coal Co.													
Prospect, Oakwood and Wyoming shafts,	10.55	4.00	10.50	5.40	11.10	15.55	11.95	15.30	14	16.55	12.15	13.05	140.10
Wyoming and Midvale slopes and Henry shaft,	12.65	10.40	3.80	7.50	.....	.....	.....	.....	.....	.....	.....	.....	34.35
Maltby shaft,	12	8.80	8.60	10.45	12.60	17.15	15.30	12.65	15.05	15.10	12.25	15.10	155.05
Exeter Nos. 1 and 2 shafts,	11.75	9.70	8.60	11.40	10.75	14.90	15.25	7.85	17.30	18.65	14 65	18.05	158.85
Heidelburg shaft,	13.65	11.05	9.55	12.40	13.10	16.30	17.15	14.20	17.30	17.15	15.25	17.50	174.60
Heidelburg slope,	14.50	11.55	8.80	12.25	13.10	16	16.15	14.40	16.85	15.65	14.20	17.85	171.30
Average,	12.50	9.18	8.30	9.90	12.12	15.98	15.16	13.48	16.10	16.60	13.70	16.30	†159.98

Butler Mine Co., Limited.													
Butler and Chapman shafts and tunnel, ..	15.50	10.90	13.10	10	10.10	14.60	14.30	17.90	19.20	20.70	19.80	19.50	185.60
Fernwood shaft and tunnel, ...	17.50	10.70	15.20	11.40	13.90	17.40	18.60	18.60	18.40	18.20	18	16.60	194.50
Average, ...	16.50	10.80	14.85	10.50	12	16	16.45	18.25	18.80	16.45	16.90	18.05	†190 05
Del., Lacka. and Western R. R. Co.													
Hallstead shaft, ...	15	12.50	10.40	9.20	10.30	12.40	13.30	16.90	15.60	16.30	15.90	14.90	162.70
Pettebone shaft, ...	19.10	18	16.90	15.30	18.20	5.60	4.70	13.40	18.40	21.50	20.20	11.60	182.90
Average, ...	17.05	15.25	13.65	12.25	14.25	9	9	15.15	17	18.90	18.05	13.25	†172.80
Temple Iron Co.													
Harry E. and Forty Fort shafts, ...	18.15	14.90	20.35	19.85	22	19.85	21.30	23.80	21.10	20	17.55	19.40	238.25
Mt. Lookout shaft, ...	17.25	14.40	11.85	12.75	17.25	13.55	17.80	11.60	.....	.....	.....	.....	116.45
Babylon shaft and tunnels, ...	12.40	10.10	7.40	8.60	8.80	13.90	14	1.10	.....	18.10	13.90	14.90	123.20
Average, ...	15.93	13.13	13.20	13.73	16.02	15.76	17.70	13.16	21.10	19.05	15.72	17.15	†159.30
Newton Coal Mining Co.													
Twin, Nos. 1 and 2, Seneca and Ravine shafts, ...	14.40	11.10	7.40	7.30	9.40	13.20	15.40	13.80	14.90	15.70	14.50	13.50	150.60
Average, ...	14.40	11.10	7.40	7.30	9.40	13.20	15.40	13.80	14.90	15.70	14.50	13.50	†150.60
Miscellaneous Coal Companies.													
Phoenix and Columbia shafts, ...	15	11	7.30	7.70	10.30	14.10	15.10	17.10	17.90	17.50	17.70	19	169.70
Mill Hollow shaft, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Black Diamond shaft, ...	17.25	15.45	17.95	13.65	14.20	13.20	14.80	15.85	14.80	13.80	12.80	13.25	177
Clear Spring shaft, ...	15.05	15.85	12.05	14.05	15.75	19.30	18.20	16.25	21.85	24.95	25.90	18.25	217.45
Elmwood Nos. 1 and 2 shafts, ...	11.80	2.60	1.90	9.90	8.30	13.90	13	11.80	14	14.40	11.80	12.90	136.30
East Boston shaft, ...	15.30	11.90	13.10	9.10	12.20	11.60	11.40	15.90	17.90	19.50	18.80	18.50	175.20
Ridgewood slope, ...	11.25	13.95	16.45	12.55	12.95	11.70	8.05	.....	.....	9.10	8.50	7.95	112.50
Avoca shaft, ...	11.10	10.20	11.10	6.10	6.10	10.10	12.40	13.10	13.90	15.50	14.50	15.60	140
Lanecliffe shaft and tunnel, ...	14.40	13.10	13.80	9.30	10.40	15.30	17.20	18.30	17.20	18.40	17.20	18.20	182.80
Laflin shaft, ...	7.10	6.80	9.10	8.10	7.90	7.90	6.80	6.90	7.40	7	7.40	7.40	89.80
Katy Lee slope, ...	12.25	9.50	12	7.50	8	11.75	12.50	13	10.50	12.25	17.75	17	144
Louise slope and tunnel, ...	11.30	8.10	8.40	7.40	11.20	13.80	15.50	8.50	16.80	22.80	21.20	20.30	165.30
Pine Ridge shaft, ...	12.55	8.70	11.45	7.50	8.25	18.65	22.45	21.80	22.80	22.90	20.90	21.70	199.75
Laurel Run slope, ...	11.30	6.80	10.10	7.90	7.90	13.40	16.90	17	17.50	15.20	17.50	15.20	158.70
Delaware shaft, ...	14.20	13.10	14	12	13	12.20	12.10	13.10	12.10	5.30	9	12	142.10
Bernice drifts, ...	23.75	20.25	24.50	21.75	23.50	21.50	21.50	21.50	22.25	23	23.25	22.25	269
Stevens shaft and slope, ...	10.05	8.10	6.60	7.35	8.95	10.60	12.50	3.90	1.85	13.60	14.05	15.15	112.20
Griffith tunnel, ...	11.50	10.50	9.80	8.10	9.90	12.75	12.75	11.60	12.10	11.50	11.90	15.05	137.45
Gardner Creek tunnel, ...	2	5.35	18.45	18	18	12.70	18.80	16.45	15.85	19.05	16.85	18.40	179.90
Miner's tunnel, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crescent tunnel, ...	8.05	5.90	5.90	7.65	6.05	1.80	7.70	6.70	7.40	5.35	5	5.45	70.95
Lykens drift, ...	.....	.....	.....	6	5	3	7	7	8	14	17	13	78
Bennett's washery, ...	24	15	25	24	27	26	23	23	25	23	24	22	281
Luzerne washery, ...	.....	.....	.....	.....	.....	22	15	12	22	22	21	23	137
Brooksid. washery, ...	10	9.50	19.50	14.50	18	19.50	14	18	9 75	18.50	17	19.25	187.50
Average, ...	12.69	9.85	12.78	10.91	11.95	13.77	14.42	13.95	14.85	16.12	16.12	16.12	†158.95

Recapitulation.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Pennsylvania Coal Co.,	13.20	12.85	13	12.55	12.90	16.85	16	16.30	14.35	19.20	17.70	16.10	174.80
Lehigh Valley Coal Co.,	12.56	9.18	8.70	9.90	12.12	15.98	15.16	13.48	16.10	16.60	13.70	16.30	159.98
Butler Mine Co., Limited,	16.50	10.80	14.85	10.50	12	16	16.45	18.25	18.80	16.45	16.90	18.05	190
Delaware, Lacka. and Western R. R. Co.,	17.05	15.28	13.65	12.25	14.25	9	9	15.15	17	18.90	18.05	13.25	172.80
Temple Iron Co.,	15.90	13.15	13.20	13.70	16	15.70	17.70	18.20	21.10	19	15.70	17.15	159.39
Newton Coal Mining Co.,	14.40	11.10	7.40	7.30	9.40	13.20	15.40	13.80	14.90	15.70	14.50	13.50	150.60
Miscellaneous coal companies,	12.69	9.85	12.78	10.91	11.95	13.77	14.42	13.95	14.85	16.12	16.12	16.12	158.95
Average,	14.60	11.74	11.88	11.15	12.60	14.35	14.87	15.59	16.73	17.42	16.09	15.64	†166.63

†Average time of all the collieries for the year.

TABLE IV—List of fatal accidents that occurred in and about the mines of the Third Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 3,	Robert Southwork, ...	Miner, ...	46	M.	1	3	Henry shaft, ...	Luzerne, ...	Killed by being struck by a prop, which was knocked out by coal.
9,	James Grier, ...	Slate picker, ...	65	M.	1	8	Butler breaker, ...	Luzerne, ...	Killed while picking slate off railroad car by being knocked off.
10,	John O. Boyle, ...	Miner, ...	38	M.	1	5	No. 9 shaft, ...	Luzerne, ...	Killed by premature blast he was firing.
11,	Gaydon Provingano, ...	Miner, ...	35	S.	....	....	Laflin shaft, ...	Luzerne, ...	Killed by a piece of rock falling on him.
14,	John Sneaster, ...	Culm driver, ...	30	M.	1	1	Harry E. breaker, ...	Luzerne, ...	Fatally injured by having been crushed between car and post of breaker; died next day.
17,	John Yadritis, ...	Laborer, ...	36	M.	1	....	Pettebone shaft, ...	Luzerne, ...	Killed by rock falling on him.
30,	Andrew Lensavage, ...	Miner, ...	35	S.	....	....	Mt. Lookout shaft, ...	Luzerne, ...	Fatally injured by premature blast while tamping hole; died February 11.
Feb. 7,	John Simivich, ...	Laborer, ...	35	M.	1	....	Pine Ridge shaft, ...	Luzerne, ...	Killed by fall of rider coal.
22,	Joseph Osayo, ...	Laborer, ...	28	M.	1	....	East Boston shaft, ...	Luzerne, ...	Killed by fall of rock in face of airway.
28,	James Sullivan, ...	Laborer, ...	40	M.	1	2	Black Diamond shaft, ..	Luzerne, ...	Crushed between cars; died March 1st.
28,	Thomas Coffield, ...	Laborer, ...	39	S.	....	....	Delaware shaft, ...	Luzerne, ...	Killed by fall of rock.
April 6,	Anthony Duda, ...	Laborer, ...	28	S.	....	....	Butler shaft, ...	Luzerne, ...	Killed by fall of rock in face of chamber.
11,	Thomas Murphy, ...	Miner, ...	38	M.	1	5	Ravine shaft, ...	Luzerne, ...	Killed by fall of rider coal.
27,	William Donnley, ...	Driver, ...	16	S.	....	....	No. 14 tunnels, ...	Luzerne, ...	Crushed between car and prop; died April 30.
May 12,	George Lancaster, ...	Miner, ...	58	M.	1	8	Pettebone shaft, ...	Luzerne, ...	Fatally injured by blast; died next day.
29,	Anthony Hollern, ...	Miner, ...	41	M.	1	4	Oakwood shaft, ...	Luzerne, ...	Fatally injured by premature blast; died next day.
June 1,	Moses L. McGee, ...	Laborer, ...	60	M.	1	....	Pettebone, outside, ...	Luzerne, ...	Fatally injured by having been run down by mine car while cleaning road; died on 15th.
1,	Carrol Plumbie, ...	Laborer, ...	41	M.	....	2	Black Diamond culm bank.	Luzerne, ...	Smothered by a rush of culm while feeding the conveyors.
3,	John Kuffico, ...	Miner, ...	50	M.	1	....	Griffith tunnel, ...	Luzerne, ...	Fatally injured by fall of rock; died next day.
10,	Henry Watson, ...	Miner, ...	43	M.	1	1	Bernice drift, ...	Sullivan, ...	Killed by fall of rock while removing pillars.
14,	Joseph Scheviot, ...	Laborer, ...	35	S.	....	....	Avoca shaft, ...	Luzerne, ...	Killed by fall of rock.
15,	George Huldock, ...	Laborer, ...	27	S.	....	....	No. 14 shaft, ...	Luzerne, ...	Fatally burned by gas; died on 21st.

TABLE IV —Continued.

Date of accident.		Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
June	26.	Peter Doran,	Laborer,	24	M.	1	2	Delaware shaft,	Luzerne,	Killed by fall of rider coal while taking out pillars.
	27.	Thomas Hislop,	Miner,	42	M.	1	3	Mt. Lookout shaft,	Luzerne,	Killed by fall of rock in face of heading.
	27.	Frank Shemus,	Laborer,	32	M.	1	2	Mt. Lookout shaft,	Luzerne,	Killed by the same fall of rock.
	28.	Lewis Alsen,	Miner,	41	S.			Laurel Run slope	Luzerne,	Fatally burned by gas in an abandoned chamber; died on 30th.
	29.	Condy McGee,	Miner,	60	M.	1	2	Louise tunnel,	Luzerne,	Killed by fall of rock while taking out pillars.
July	8.	John Brunnski,	Laborer,	32	M.	1	1	Heidelburg shaft,	Luzerne,	Killed by fall of rock.
	8.	Martin Wolfe,	Door boy,	15	S.			No. 10 shaft,	Luzerne,	Killed by a car running off the track on him.
	8.	John Kuscavich,	Slate picker,	14	S.			Stevens breaker,	Luzerne,	Fatally injured by falling from roof of breaker.
	8.	Charles Grablin,	Miner,	25	S.			Mt. Lookout shaft,	Luzerne,	Fatally burned by an explosion of gas; died next day.
	9.	Michael Malia, Jr.,	Laborer,	25	S.			No. 6 shaft,	Luzerne,	Fatally injured by fall of rock; died after being taken home.
	25.	Patrick Cafferty,	Miner,	29	S.			Barnum No. 1 shaft,	Luzerne,	Fatally injured by fall of rock; died same day.
Aug.	2.	Samuel Evans,	Miner,	30	M.	1	2	Mt. Lookout shaft,	Luzerne,	Fatally injured by fall of rock; died same day.
	9.	Peter Slackis,	Laborer,	19	S.			Twin shaft,	Luzerne,	Fatally injured by fall of rock; died on 12th.
	12.	William Brown,	Laborer,	37	S.			Maltby shaft,	Luzerne,	Killed by fall of rock.
	17.	John Nowiski,	Laborer,	40	M.	1	6	Twin shaft,	Luzerne,	Killed by fall of rock.
	30.	Simon Mussavage,	Laborer,	39	M.	1	7	Harry E. shaft,	Luzerne,	Killed by fall of rock.
Sept.	2.	John Ferrel,	Laborer,	27	M.	1	1	Chapman shaft,	Luzerne,	Killed by fall of rock.
	12.	John Savage,	Miner,	38	S.			Harry E. shaft,	Luzerne,	Killed by fall of rock.
	19.	John Zacus,	Laborer,	24	S.			Griffith tunnel,	Luzerne,	Killed by fall of rock.
	20.	James Flannagan,	Miner,	34	M.		2	No. 6 shaft,	Luzerne	Fatally injured by fall of top coal; died same day.
	25.	John Egnotz,	Laborer,	30	M.	1	1	No. 8 washery,	Luzerne,	Killed; struck on head by beam of steam shovel.
Oct.	3.	George Stetler,	Timberman,	41	M.	1		Louise slope,	Luzerne,	Killed by runaway trip of cars on slope.
	6.	Frank Yarneskie,	Miner,	46	M.	1		Ridgewood slope,	Luzerne,	Killed by fall of rock in face of his chamber.

	27,	John Wishcoski,	Miner,	30	S.	....	....	Ridgewood slope,	Luzerne,	Killed by fall of rock.
	30,	Michael Gudofskey,	Miner,	34	M.	1	3	Exeter shaft,	Luzerne,	Killed by fall of rock.
Nov.	1,	Wm. Pinshvoliste,	Laborer,	30	S.	....	....	Pine Ridge shaft,	Luzerne,	Fatally injured by fall of rock; died after being taken home.
	7,	Emmett Hurley,	Driver,	16	E.	....	....	Mt. Lookout, outside,	Luzerne,	Fatally injured by culm car box dumping on him; died same day.
	8,	John Walker,	Door tender,	65	M.	1	....	No. 5 shaft,	Luzerne,	Fatally injured on head; struck by door; died 15th.
	10,	William Bray,	Driver,	16	S.	....	....	Avoca shaft,	Luzerne,	Killed by fall of rock on gangway road.
	10,	Thomas Toye,	Miner,	59	M.	1	3	No. 8 shaft,	Luzerne,	Fatally injured by fall of rock; died 16th.
	17,	Thomas Gibbons,	Miner,	26	S.	....	....	No. 8 shaft,	Luzerne,	Killed by fall of rock which shot a prop out.
	22,	Lukas Karmcink,	Miner,	36	M.	1	3	Babylon shaft,	Luzerne,	Fatally injured by a blast he was firing; died 25th.
	24,	Andrew Horvanick,	Laborer,	40	M.	1	4	Bennett washery,	Luzerne,	Smothered in pea coal chute in breaker.
Dec.	2,	George Shupz,	Laborer,	43	M.	1	....	Prospect shaft,	Luzerne,	Fatally injured by fall of rider coal; died same day.
	7,	Michael Graham,	Miner,	45	M.	1	6	Harry E. shaft,	Luzerne,	Killed by fall of top coal which he was taking down.
	8,	John Locoshake,	Door boy,	14	S.	....	....	Delaware shaft,	Luzerne,	Fatally injured; while on cage it was caught in the shaft; died same day.
	13,	Michael Curtis,	Headman,	30	W.	....	1	Louise breaker,	Luzerne,	Fatally injured by falling through trestling; died same day.
	16,	Martin Spodnick,	Laborer,	35	M.	1	2	Black Diamond shaft,	Luzerne,	Fatally injured by fall of rock; died same day.
	19,	John Lynch,	Mason,	55	M.	1	5	Harry E. shaft,	Luzerne,	Fatally scalded by escaping steam from broken pipe.
	20,	Patrick Flynn,	Miner,	35	W.	....	2	Pine Ridge shaft,	Luzerne,	Killed by fall of top coal.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Third Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 7.	Frank Jacobs,	Miner,	29	S.	Harry E. shaft,	Luzerne,	These three men were burned on face and hands by carelessly going up in the face of their chamber with an open light, by an explosion of gas.
7.	Charles Russavage,	Laborer,	31	S.	Harry E. shaft,	Luzerne,	
7.	Frank Drisbaugh,	Laborer,	26	S.	Harry E. shaft,	Luzerne,	
7.	Thomas Chivers,	Rock dumper,	46	M.	No. 7 shaft, outside,	Luzerne,	Back painfully bruised; slipped and fell off trestling.
9.	Henry Jones,	Engineer,	37	M.	Westminster, outside,	Luzerne,	Jones and Kelley were painfully bruised and injured by locomotive getting off the track on trestling.
9.	Samuel Kelley,	Machinist,	....	M.	Westminster, outside,	Luzerne,	
9.	John Jones,	Footman,	23	M.	East Boston shaft,	Luzerne,	Slightly squeezed; caught in cage pit by descending cage.
12.	Peter Miller,	Miner,	26	S.	No. 11 shaft,	Luzerne,	Face and hands burned by gas in cross entrance.
12.	Simon Krychiki,	Miner,	45	M.	Exeter shaft,	Luzerne,	Eye seriously injured; he went back to face, as he thought blast had missed.
12.	Joseph Shanwetter,	Miner,	32	M.	East Boston shaft,	Luzerne,	Jaw broken and face cut by a premature blast.
14.	Michael Savage,	Driver,	16	S.	Schooley shaft,	Luzerne,	Severely injured; caught between mule and cars.
17.	John Noon,	Driver,	17	S.	No. 7 shaft,	Luzerne,	Head and body bruised; struck by car.
18.	Anthony Backsha,	Laborer,	20	S.	Twin No. 2 shaft,	Luzerne,	Back and leg bruised by fall of coal.
18.	John Lavell,	Company man,	22	M.	Pettebone shaft,	Luzerne,	Toes crushed by coal falling on them.
19.	Michael Perer,	Driver,	18	S.	Crescent drift,	Luzerne,	Painfully squeezed by car jumping the track on him.
19.	John Kessick,	Driver,	20	S.	Forty Fort shaft,	Luzerne,	Head cut and bruised; kicked by a mule.
23.	George, Urin,	Miner,	38	M.	Hallstead shaft,	Luzerne,	Back severely bruised by fall of rock.
27.	John Vaysevitch,	Laborer,	28	S.	Mt. Lookout shaft,	Luzerne,	Leg broken and face cut by fall of rock.
28.	John Evans,	Driver,	20	S.	Hallstead shaft,	Luzerne,	Leg broken by car jumping track on him.
28.	Charles Dickinson,	Slate picker,	13	S.	No. 8 breaker,	Luzerne,	Small bone of leg broken; caught on a line shaft.
30.	Charles Poroskie,	Laborer,	36	S.	Mt. Lookout shaft,	Luzerne,	Head and body cut and bruised by a premature blast.
30.	James Wilson,	Laborer,	17	S.	Bernice drift,	Sullivan,	Back painfully bruised by fall of top rock.
30.	Steven Resty,	Miner,	32	S.	Hallstead shaft,	Luzerne,	Leg broken by fall of rock.
31.	Charles Jones,	Driver,	19	S.	Ridgewood culm dump,	Luzerne,	Leg broken by the mule he was riding falling on him.
Feb. 2.	Tim Dougherty,	Miner,	45	M.	Stevens shaft,	Luzerne,	Ribs broken and back bruised by fall of rock.
4.	Joe Roumantic,	Laborer,	32	S.	Avoca shaft,	Luzerne,	Leg broken by bell-shaped rock falling on him.

	14,	Luke Kuna,	Dumper,	23	S.	Ewen breaker,	Luzerne,	Hand crushed between car bumpers while coupling same.
	15,	Michael Shocalis,	Laborer,	45	M.	Stevens slope,	Luzerne,	Head and body bruised while riding up slope on empty cars.
	17,	James Jones,	Driver,	16	S.	East Boston shaft,	Luzerne,	Leg bruised; caught between car and timber.
	20,	Alex. Ornotski,	Laborer,	30	S.	Laflin shaft,	Luzerne,	Faces and hands burned by an explosion of gas in an old chamber.
	20,	George Gehodak,	Miner,	34	M.	Laflin shaft,	Luzerne,	
	20,	Michael Armanavicz,	Laborer,	29	M.	Barnum No. 2 shaft,	Luzerne,	Three ribs and arm broken; struck by runaway car.
	22,	Joe Sankas,	Miner,	34	M.	Stevens slope,	Luzerne,	Face and arms cut by going back to blast which he thought had missed.
	24,	Michael Novick,	Miner,	26	S.	Exeter shaft,	Luzerne,	Leg crushed by fall of rock, necessitating amputation.
	25,	James Cassell,	Laborer,	22	S.	Black Diamond shaft,	Luzerne,	Back severely bruised by fall of rock.
	25,	Michael Petro,	Miner,	29	M.	Exeter shaft,	Luzerne,	Leg broken by fall of rock.
	28,	Thomas Smith,	Door tender,	48	S.	Black Diamond shaft,	Luzerne,	Back slightly squeezed; fell under cars.
	28,	Henry Titius,	Driver,	19	S.	Black Diamond shaft,	Luzerne,	Body squeezed between cars while making a coupling.
	28,	Jacob Reinart,	Miner,	50	M.	Delaware shaft,	Luzerne,	These two men were severely injured by a fall of roof while robbing pillars.
	28,	Martin Miller,	Laborer,	37	M.	Delaware shaft,	Luzerne,	
Mar.	1,	James Mahoney,	Door tender,	16	S.	Griffith tunnel,	Luzerne,	Leg painfully cut; caught between car bumpers.
	1,	Mike Coneskey,	Laborer,	25	S.	No. 5 shaft,	Luzerne,	Leg broken by coal flying from a blast.
	1,	Samuel Rosco,	Dumper,	20	S.	No. 6 breaker,	Luzerne,	Foot bruised; dumping tip came down on it.
	7,	Joe Kostane,	Headman,	22	S.	Elmwood breaker,	Luzerne,	Head and body bruised; struck by descending cage in shaft.
	8,	Joe Tolandis,	Miner,	33	M.	Twin No. 2 shaft,	Luzerne,	Hands and face burned by gas.
	9,	Thomas Evans,	Engineer,	23	S.	Pettebone shaft,	Luzerne,	Leg broken and body bruised; caught between cars and rib.
	9,	Anthony Matsavage,	Miner,	45	M.	East Boston shaft,	Luzerne,	Body bruised by fall of rock.
	9,	Joe Youchock,	Laborer,	34	M.	Maltby shaft,	Luzerne,	Leg bruised by rock sliding from the gob on him.
	15,	George Jopling,	Miner,	45	M.	No. 11 shaft,	Luzerne,	Face and hand burned by gas in an entrance.
	20,	Sylvester Humleivz,	Laborer,	22	S.	East Boston shaft,	Luzerne,	Leg bruised by fall of checker coal.
	22,	John Melitski,	Headman,	22	S.	Maltby, outside,	Luzerne,	Leg slightly bruised; caught between car bumpers.
	22,	Andrew Germich,	Driver,	16	S.	Maltby shaft,	Luzerne,	Body painfully squeezed between car and prop.
	23,	Martin Hart,	Driver,	17	S.	No. 5 shaft,	Luzerne,	Foot squeezed between car bumpers.
	24,	Elias Jones,	Miner,	72	M.	No. 11 shaft,	Luzerne,	Body bruised by flying coal from a blast he was firing.
	29,	John Kertanis,	Miner,	33	S.	Stevens slope,	Luzerne,	Spine fractured by fall of rock.
	29,	Martin Kearney,	Miner,	70	M.	Barnum No. 3 shaft,	Luzerne,	Shoulders bruised by coal flying from blast.
	30,	William Tasker,	Sinker,	42	M.	Prospect shaft,	Luzerne,	Back bruised by rock falling off bucket as it was being hoisted.
	30,	Charles Thomas,	Runner,	19	S.	Pettebone shaft,	Luzerne,	Thomas and Hurbester got on the rear end of trip of cars to ride down the grade and were thrown off; Thomas' leg and arm were broken, and Hurbester's ankle and body were bruised.
	30,	Edward Hurbester,	Door boy,	16	S.	Pettebone shaft,	Luzerne,	
April	10,	Martin McDonough,	Miner,	42	M.	Schooley shaft,	Luzerne,	McDonough and his laborer, Mucofski, were burned on face and hand by an explosion of gas in their chamber.
	10,	Stanly Mucofski,	Miner,	25	S.	Schooley shaft,	Luzerne,	
	12,	Albert West,	Miner,	50	M.	No. 8 shaft,	Luzerne,	Face and hands burned and arm broken by premature explosion of a blast.
	12,	Anthony Grabelskie,	Runner,	18	S.	Laflin shaft,	Luzerne,	Leg broken; car jumped the track on him.

TABLE V—Continued.

Date of accident.	Name of Person	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
April 13.	Thomas Learch,	Miner,	43	M.	Crescent drift,	Luzerne,	Learch's spine injured and Skuse's ankle bruised while standing a prop by a fall of roof.
13.	George Skuse,	Laborer,	29	S.	Crescent drift,	Luzerne,	
14.	Michael Keefe,	Driver,	18	S.	Elmwood No. 1 shaft,	Luzerne,	Shoulder and chest bruised; squeezed between car and roof.
14.	Joe Renza,	Miner,	28	S.	Ridgewood slope,	Luzerne,	Leg broken; struck by coal flying from a blast.
14.	Michael Morris,	Miner,	37	M.	No. 11 shaft,	Luzerne,	Face and hand burned by gas.
18.	John Golden,	Laborer,	58	M.	No. 1 shaft,	Luzerne,	Leg and arm bruised by fall of rock.
18.	George Stevenson,	Driver boss,	22	S.	Laurel Run slope,	Luzerne,	Leg bruised; struck by hoisting rope on slope.
18.	Patrick Dailey,	Miner,	56	M.	Laws shaft,	Luzerne,	Face and hands burned by powder while filling a cartridge.
21.	Peter Kolaski,	Laborer,	22	S.	Pettebone shaft,	Luzerne,	Face cut and body bruised by coal flying from a blast.
24.	Thomas Reddington,	Driver,	16	S.	No. 4 shaft,	Luzerne,	Leg broken; fell under moving cars.
24.	Stephen Marein,	Laborer,	27	S.	Maltby, outside,	Luzerne,	Hips squeezed; caught between car and foundation wall.
24.	Anthony Vidzer,	Miner,	33	M.	Laflin shaft,	Luzerne,	Face and hand burned by gas.
May 2.	Patrick Burke,	Laborer,	50	M.	Mt. Lookout breaker,	Luzerne,	Two ribs broken, squeezed between railroad cars and post of breaker.
2.	Nojak Mock,	Miner,	31	M.	Ridgewood slope,	Luzerne,	Leg broken; struck by a piece of coal he was mining.
5.	Simon Lizzak,	Miner,	42	W.	Chapman shaft,	Luzerne,	Painfully cut and bruised by coal flying from a blast.
11.	William Davis,	Runner,	22	S.	Stevens slope,	Luzerne,	Hips squeezed; caught between car and rib.
18.	Con Sullivan,	Miner,	30	M.	East Boston shaft,	Luzerne,	Hips and back bruised; struck by piece of coal.
18.	Mike Slabinske,	Miner,	28	M.	Laflin shaft,	Luzerne,	Back bruised by fall of rock.
20.	George C. Mathewson,	Repairman,	23	M.	No. 6 washery,	Luzerne,	Painfully squeezed; caught in conveyors.
22.	David Warner,	Timberman,	27	M.	Prospect shaft,	Luzerne,	These two men were burned on face and hands while blocking up a set of double timbers by igniting a feeder of gas.
22.	Patrick Ryan,	Timberman,	27	M.	Prospect shaft,	Luzerne,	
23.	Ignatius Quinn,	Headman,	20	S.	Twin No. 2, outside,	Luzerne,	Three fingers crushed by having been run over by mine car.
24.	Frank Haddock,	Laborer,	24	S.	Langcliffe tunnel,	Luzerne,	Arm broken and finger cut off by rock falling on him.
27.	Frank Gallagher,	Loader,	19	S.	Butler breaker,	Luzerne,	Head bruised while putting car on track, by rail breaking.

	26.	Thomas Wilson,	Miner,	55	M.	Wyoming slope,	Luzerne,	Slightly cut and bruised by coal flying from a blast.
	26.	John Droyer,	Driver,	17	S.	Maltby shaft,	Luzerne,	Hips squeezed between car and rib.
	26.	James Zider,	Laborer,	42	S.	Henry shaft,	Luzerne,	Head and hand cut by fall of rock.
	27.	John Wyland,	Carpenter,	23	S.	Maltby breaker,	Luzerne,	Head bruised and cut; struck by a falling plank.
	30.	Jacob Adamcheck,	Loader,	20	S.	Maltby breaker,	Luzerne,	Leg broken and body squeezed between railroad cars.
June	2.	Peter Fadden,	Laborer,	40	M.	Barnum No. 1 shaft,	Luzerne,	Leg broken; caught between car bumpers.
	3.	Eugene Kearns,	Driver,	15	S.	Barnum No. 2 shaft,	Luzerne,	Painfully bruised on abdomen; kicked by a mule.
	5.	John Kopolinskie,	Miner,	51	S.	Stevens shaft,	Luzerne,	Scalp wound, caused by fall of rock.
	5.	Thomas McAnulty,	Miner,	29	M.	No. 11 shaft,	Luzerne,	Face and hands burned by gas.
	7.	William Morgan,	Timberman,	32	M.	Oakwood shaft,	Luzerne,	Thumb crushed by prop timber falling from a car on his hand.
	7.	John Jakosk,	Door boy,	15	S.	Oakwood shaft,	Luzerne,	Leg broken by prop timber falling from a car on him.
	10.	Mike Quinn,	Miner,	73	W.	Bernice drift,	Sullivan,	Head severely cut and bruised by fall of roof.
	13.	Charles Smith,	Laborer,	50	M.	Henry shaft,	Luzerne,	Two ribs broken and head bruised by fall of rock.
	14.	John McLuski,	Driver,	23	S.	Twin shaft,	Luzerne,	Back and hips bruised; squeezed between car and rib.
	14.	George English,	Fireman,	32	S.	Maltby breaker,	Luzerne,	Arm painfully bruised; fell in the breaker.
	14.	Charles Mallmock,	Miner,	47	M.	Avoca shaft,	Luzerne,	Hips and back bruised by fall of rock.
	15.	George Meckr,	Laborer,	36	S.	No. 14 shaft,	Luzerne,	Face and hands burned by gas.
	16.	Daniel McDade,	Miner,	40	M.	Laurel Run slope,	Luzerne,	Painfully bruised by fall of rider coal.
	17.	Mike Bouckley,	Miner,	58	M.	Langcliffe, outside,	Luzerne,	Leg crushed between mine cars at breaker, necessitating amputation.
	19.	Peter Norvack,	Laborer,	42	M.	Delaware shaft,	Luzerne,	Leg broken by piece of coal flying from pillar.
	21.	Pat Melvin,	Door boy,	14	S.	No. 6 shaft,	Luzerne,	Leg broken by a piece of rock falling from roof.
	23.	John Saunders,	Laborer,	26	S.	Prospect sinking shaft,	Luzerne,	Arm cut by a piece of rock he was lifting into a bucket.
	23.	Dennis Grimes,	Miner,	40	M.	Pine Ridge shaft,	Luzerne,	Back and shoulders bruised by fall of rock.
	27.	Michael Meekin,	Miner,	40	M.	Mt. Lookout shaft,	Luzerne,	Back and shoulders bruised by fall of rock.
	28.	Edward Condern,	Breaker company man.	55	M.	Ridgewood breaker,	Luzerne,	Back bruised by the telegraphs falling on him while in chute.
	29.	Thomas Higgins,	Laborer,	35	S.	Twin shaft,	Luzerne,	Leg broken; caught between cars.
July	1.	John Gulup,	Miner,	37	S.	East Boston shaft,	Luzerne,	Leg broken by fall of coal.
	2.	John Kardovich,	Laborer,	22	S.	Laflin shaft,	Luzerne,	Leg broken by mine car jumping track on him.
	2.	John Smarsh,	Laborer,	27	M.	Ridgewood slope,	Luzerne,	Leg broken by fall of rider coal.
	5.	Peter Bocavage,	Miner,	34	S.	Phoenix shaft,	Luzerne,	Shoulders and neck bruised; fell into cage pit.
	6.	Frank Kornitz,	Culm man,	40	M.	Exeter breaker,	Luzerne,	Scalp wound by falling from railroad cars at breaker.
	7.	Thomas Shaw,	Runner,	17	S.	Barnum No. 1 shaft,	Luzerne,	Foot squeezed between car bumpers.
	10.	Michael Malia, Sr.,	Miner,	62	M	No. 6 shaft,	Luzerne,	Severely cut and bruised on head and body, father and son, by fall of rock; Michael, the other son, was fatally injured.
	10.	William Malia,	Miner,	27	S.	No. 6 shaft,	Luzerne,	
	11.	James Mevrick,	Miner,	40	M.	Columbia shaft,	Luzerne,	Large toe cut off by an ax falling on it.
	18.	George Lee,	Driver,	16	S.	Ravine shaft,	Luzerne,	Leg broken by fall of rider coal.
	21.	Stephen Tomchick,	Miner,	28	M.	Mt Lookout shaft,	Luzerne,	Face and hands burned by gas.
	31.	William Nuss,	Driver,	15	S.	Stevens shaft,	Luzerne,	Leg severely bruised between car bumpers.
Aug.	2.	Fred. Wega,	Footman,	22	S.	Hallstead shaft,	Luzerne,	Back bruised; crushed between truck load of rails and roof.
	2.	Thomas O'Garshe,	Miner,	40	M.	Langcliffe shaft,	Luzerne,	Painfully bruised by fall of roof rock.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Aug. 5.	William Ruheck,	Shaft headman,	26	S.	Maltby, outside,	Luzerne,	Painfully bruised; caught between car and head frame of shaft.
7.	Philip Bevano,	Company man,	21	S.	Fernwood breaker,	Luzerne,	Foot crushed in rolls he was tending.
8.	Thomas Healy,	Miner,	38	W.	Phoenix shaft,	Luzerne,	Thigh broken by fall of rock.
10.	Lewis Jenkins,	Timberman,	26	M.	Pettebone shaft,	Luzerne,	Leg broken by slab of rock sliding from the gob on him.
11.	Martin Maughan,	Driver,	15	S.	No. 7 shaft,	Luzerne,	Wrist broken; caught between car and roof.
14.	Joseph Frenovak,	Miner,	28	S.	Maltby shaft,	Luzerne,	Face and hands burned by gas.
15.	George Pero,	Door boy,	15	S.	Laurel Run slope,	Luzerne,	Leg broken between car bumpers.
15.	Joseph Morris,	Runner,	22	S.	Pine Ridge shaft,	Luzerne,	Kicked on stomach by mule.
19.	William Hughes,	Brattice man,	45	M.	Pettebone shaft,	Luzerne,	These men were burned on face and hands by gas while making a survey in and old chamber.
19.	Fred. Hutchison,	Surveyor,	19	M.	Pettebone shaft,	Luzerne,	
28.	John Vidota,	Miner,	32	M.	Elmwood No. 2 shaft,	Luzerne,	Face and breast cut and bruised by coal flying from a blast.
28.	Richard Naylor,	Driver,	16	S.	Hallstead breaker,	Luzerne,	Wrist broken; thrown from a mule.
29.	Frank Savitick,	Laborer,	24	S.	Westminster tunnel,	Luzerne,	Pelvis fractured and cut on back by fall of rock.
Sept. 5.	Frank Miller,	Miner,	27	S.	Forty Fort shaft,	Luzerne,	These men were burned on face and hands by gas in an abandoned working.
5.	Peter Denrovich,	Laborer,	20	S.	Forty Fort shaft,	Luzerne,	
6.	Austin Nevin,	Driver,	17	S.	Barnum No. 2 shaft,	Luzerne,	Hand bruised while blocking car at head block.
6.	John Surwanks,	Laborer,	32	M.	Westminster tunnel, outside.	Luzerne,	Leg broken; caught between car bumpers.
6.	Michael Apple,	Miner,	20	M.	Forty Fort shaft,	Luzerne,	Severely injured by a premature blast.
7.	John Flannery,	Laborer,	24	S.	Columbia shaft,	Luzerne,	Leg broken by car striking head block and rebounding on him.
9.	Wm. Brown,	Miner,	42	M.	Exeter shaft,	Luzerne,	Head cut and bruised by fall of rock.
9.	Patrick Keefe,	Miner,	42	S.	Harry E. shaft,	Luzerne,	Face and hands burned by gas.
12.	Martin Rowland,	Slope runner,	34	M.	Harry E. shaft,	Luzerne,	Rib broken and body bruised; caught between cars.
12.	Thomas Tonkins,	Driver,	16	S.	Harry E. shaft,	Luzerne,	Leg broken by timber on car knocking prop out, which fell on him.
12.	Elias Williams,	Miner,	50	M.	East Boston shaft,	Luzerne,	Back and heel cut by fall of rock while standing prop.
15.	William Larue,	Stable boss,	36	M.	Maltby shaft,	Luzerne,	Hips bruised; he was knocked down by a trip of cars on gangway.
18.	Michael Savage,	Driver,	16	S.	No. 7 shaft,	Luzerne,	Leg broken; fell in front of trip of cars.

	19,	John Loftus,	Laborer,	21	S.	No. 9 shaft,	Luzerne,	Skull fractured and head cut by premature blast.
	21,	Joseph Moses,	Miner,	29	M.	Langcliffe shaft,	Luzerne,	Face and arms cut by premature blast.
	22,	Frank Shols,	Miner,	39	S.	Forty Fort shaft,	Luzerne,	Face burned by an explosion of gas.
	22,	Joseph Tressa,	Miner,	48	M.	Maltby shaft,	Luzerne,	Hips bruised by fall of top coal.
	22,	John Sheridan,	Miner,	32	M.	Langcliffe shaft,	Luzerne,	Head severely cut by fall of coal and rock.
	25,	Joseph Savitsky,	Laborer,	30	S.	Elmwood shaft,	Luzerne,	Ankle dislocated; struck by cars on gravity plane.
	26,	Lewis Smith,	Brattice man,	24	S.	Henry shaft,	Luzerne,	Mouth bruised; struck by hammer while holding a prop.
	27,	Lewis Bordick,	Laborer,	22	S.	Fernwood shaft,	Luzerne,	Leg painfully bruised by fall of rock.
Oct.	3,	Joseph Androches,	Miner,	31	S.	Stevens slope,	Luzerne,	Head and back cut and bruised by fall of rock.
	6,	Roy Pearce,	Driver,	17	S.	Stevens breaker,	Luzerne,	Leg painfully cut and bruised; fell under culm car.
	10,	Reese Morgan,	Breaker headman,	26	M.	Louise breaker,	Luzerne,	Leg broken; while unhitching car it jumped the track on him.
	11,	James Doleson,	Miner,	33	M.	Fernwood shaft,	Luzerne,	Leg broken between car bumpers
	14,	Andro Begas,	Runner,	19	S.	Maltby shaft,	Luzerne,	Leg broken; while riding on car with timber it caught against rib.
	26,	Samuel Traher,	Miner,	47	M.	Stevens slope,	Luzerne,	Painfully squeezed between car and slope rib.
	27,	John Younger,	Car oiler,	15	S.	Katy Did slope,	Luzerne,	Leg painfully cut and bruised between car bumpers while coupling them.
Nov.	1,	Charles Benjamin,	Miner,	52	M.	Pine Ridge shaft,	Luzerne,	Ribs broken by fall of rock; his laborer was fatally injured at the same time.
	2,	David J. Morgan,	Mine boss,	51	M.	Prospect shaft,	Luzerne,	These five men were working on the line of pipe which carries the culm down a bore hole to flush the abandoned workings in the Prospect shaft; they had loosened a joint on the pipe when a considerable quantity of explosive gas which was penned up in the pipe was liberated, and ignited from an open light, burning all of them slightly on face and hands.
	2,	Patrick Needham,	Brattice man,	29	M.	Prospect shaft,	Luzerne,	
	2,	John Hughes,	Runner,	22	S.	Prospect shaft,	Luzerne,	
	2,	John Needham,	Miner, driller,	28	M.	Prospect shaft,	Luzerne,	
	2,	John Kolar,	Laborer,	32	M.	Prospect shaft,	Luzerne,	
	4,	Joseph Moran,	Laborer,	24	S.	No. 14 shaft,	Luzerne,	These two men were seriously injured by a fall of rock while laboring in a rock tunnel.
	4,	John Kerrigan,	Laborer,	29	S.	No. 14 shaft,	Luzerne,	
	7,	Thomas Mulligan,	Driver,	15	S.	No. 10 shaft,	Luzerne,	Big toe crushed under car wheel.
	7,	John Toner,	Driver,	16	S.	Butler outside,	Luzerne,	Fingers crushed; caught between car box and frame.
	7,	Michael Lawler,	Tracklayer,	35	S.	Pine Ridge shaft,	Luzerne,	Struck by a pick on head.
	8,	Ignatz Yelondick,	Miner,	35	S.	Pettebone shaft,	Luzerne,	Painfully squeezed between car and prop.
	10,	Martin Tigue,	Laborer,	35	M.	No. 14 shaft,	Luzerne,	Tigue was bruised and Furguson's leg broken while clearing the gob from the rib, by loose coal falling on them.
	10,	Hugh Ferguson,	Laborer,	30	S.	No. 14 shaft,	Luzerne,	
	13,	Thomas Marley,	Slate picker,	13	S.	No. 6 breaker,	Luzerne,	Small bone of leg broken; caught on shaker screen.
	14,	Michael Klewsky,	Miner,	49	M.	Exeter No. 1 shaft,	Luzerne,	Three ribs broken by fall of rock.
	14,	Anthony Climer,	Laborer,	16	S.	No. 5 shaft,	Luzerne,	Leg painfully cut by car jumping track on him.
	18,	Nicholas Perebarcz,	Miner,	33	W.	East Boston shaft,	Luzerne,	Leg broken by fall of rock.
	2,	Joseph Martin,	Miner,	44	M.	No. 10 shaft,	Luzerne,	Ankle dislocated by prop falling on him.
	18,	John McNulty,	Miner,	42	M.	No. 11 shaft,	Luzerne,	Face and hands burned by gas.
	20,	Frank Dougherty,	Driver,	18	S.	No. 13 shaft,	Luzerne,	Head severely cut and bruised; thrown by mule.
	22,	Frank Moosic,	Miner,	30	M.	No. 6 shaft,	Luzerne,	These two men were burned on face and hands by an explosion of gas in an abandoned place.
	22,	Ignatz Gribowski,	Miner,	24	S.	No. 6 shaft,	Luzerne,	
	23,	John Roynor,	Driver,	16	S.	Pettebone outside,	Luzerne,	Hand painfully cut; caught under car wheel.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Dec.	3. John Locoshack,	Miner,	59	M.	Pine Ridge shaft,	Luzerne,	Hand bruised by car wheel while pulling block from under it.
	4. Peter Gohusky,	Driver,	21	S.	Pine Ridge shaft,	Luzerne,	Hand caught in pulley and chain, and bruised.
	5. Joseph Quarlick,	Laborer,	46	M.	Maltby shaft,	Luzerne,	These men were burned on face and hands by an explosion of gas.
	5. John Warnick,	Laborer,	42	M.	Maltby shaft,	Luzerne,	
	6. Frank Masker,	Laborer,	23	S.	No. 6 shaft,	Luzerne,	
	6. John Connelly,	Miner,	36	M.	Pittstone shaft,	Luzerne,	Leg broken by fall of rock.
	8. Peter Walkewski,	Miner,	30	M.	East Boston shaft,	Luzerne,	Leg broken by fall of coal.
	8. Peswel Renard,	Miner,	30	M.	Fernwood shaft,	Luzerne,	Foot bruised by piece of coal falling on it.
	15. William Peters,	Laborer,	22	S.	Laurel Run slope,	Luzerne,	Body painfully bruised by fall of rock.
	19. Frank Farrell,	Driver,	16	S.	Laurel Run slope,	Luzerne,	Painfully squeezed between car and platform.
	20. Jacob Beneskey,	Miner,	32	M.	Black Diamond shaft,	Luzerne,	Arm and wrist sprained; caught against prop.
	20. Frank Volk,	Miner,	41	S.	Maltby shaft,	Luzerne,	Small bone of leg broken by coal sliding down on him.
	23. John Handley,	Miner,	35	W.	East Boston shaft,	Luzerne,	Stomach bruised by coal falling on him.
	26. Michael Reap,	Driver,	20	S.	Marcy, Butler tunnel,	Luzerne,	Groin and head cut by premature blast.
	28. William Barrett,	Company miner,	29	M.	No. 11 shaft,	Luzerne,	Arm broken; fell from empty cars.
	28. Thomas Doyle,	Company miner,	32	M.	No. 11 shaft,	Luzerne,	Leg broken by fall of top rock.
	30. Patrick McHale,	Laborer,	34	S.	Pine Ridge shaft,	Luzerne,	Body painfully bruised by above fall.
							Arm broken, caught between car and roof.

Fourth Anthracite District.

LUZERNE COUNTY.

Wilkes-Barre, Pa., February 15, 1900.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir:—I have the honor of herewith presenting my twentieth annual report as Inspector of Mines for the Fourth Anthracite District. It contains the usual tables giving useful statistics relative to the mines for the year 1899. Also brief articles on the "Mine Fire," "Inbreaks of Quicksand," depicting the great danger to mines from outcrops of coal seams and pot holes buried under deep deposits of quicksand, and a description of improvements made during 1899.

The condition of the mines is satisfactory, with the exception of that of the mines affected by fires during the year, a full description of which is found in the report in the article on mine fires.

There was a strike at the Susquehanna Coal Company collieries at Nanticoke and Glen Lyon, causing an idleness of four months, from August 1 to December 11, 1899, during which time the deeper parts of the mines were much damaged by falls of roof, but they are being repaired as rapidly as is practicable. Notwithstanding the effects of the strike at the said collieries, the production of coal in the district was 8,648,152 tons, against 7,866,277 tons in 1898, an increase of 781,875 tons. The average number of days in operation was 168.61, against 143.27 in 1898, the greatest number of days worked in any year since 1893, and the greatest production of coal since the year 1888, when 8,684,493 tons were produced in an average of 233.19 days.

The number of persons employed was 23,668, an increase of 291 over the number reported in 1898.

The number of accidents was: Fatal, 81; seriously injured, 190, and very slightly injured 135, against 75 fatal, 278 seriously and 104 very slightly injured in 1898.

Tons of coal produced per life lost was 106,767, and per person seriously injured 46,000, against 104,883 tons per life lost and 28,295 tons per person seriously injured in 1898.

The number of wives left widows was 44, and orphans, 109.

Very respectfully,

G. M. WILLIAMS,

Inspector of Mines, Fourth Anthracite District.

Production of Coal in Tons for the Year 1899 by the Several Companies.

Lehigh and Wilkes-Barre Coal Company,	2,479,226.17
Delaware and Hudson Canal Company,	1,427,566.11
Susquehanna Coal Company,	694,836.12
Kingston Coal Company,	975,840.10
Delaware, Lackawanna and Western R. R. Co.,	830,562.02
Lehigh Valley Coal Company,	364,105.18
Red Ash Coal Company,	216,676.02
Parrish Coal Company,	565,578.14
Alden Coal Company,	240,009.14
West End Coal Company,	206,827.00
Warrior Run Coal Company,	175,778.15
Crescent Coal Mining Company,	76,410.09
Hillman Vein Coal Company,	62,503.02
Melville Coal Company,	116,310.11
Plymouth Coal Company,	126,843.13
George W. Milnes, Chauncey Colliery,	46,200.00
Washeries,	42,875.16
Total,	8,648,152.06

The above production is made up as follows:

	Tons.
Shipped to market by railroad,	7,667,531.04
Sold at the mines for local use,	240,293.10
Consumed to generate steam (estimated),	740,327.12
Total,	8,648,152.06

TABLE A—Showing Number of Lives Lost, tons of Coal Produced per Life Lost and per Person Injured, Number of Employes and Number of Employes per Life Lost and per Person Injured in 1899.

Names of Operators.	Number of lives lost.	Tons of coal produced per life lost.	Number of persons seriously injured.	Tons of coal produced per person seriously injured.	Number of person employed.	Number of employes per life lost	Number of employes per person injured.
Lehigh and Wilkes-Barre Coal Company,	17	130,254	63	35,118	3,721	336	90
Delaware and Hudson Canal Company,	14	90,048	19	66,351	3,661	261	192
Susquehanna Coal Company,	7	81,989	15	38,261	3,297	514	240
Kingston Coal Company,	14	63,847	28	31,933	3,342	167	83
Delaware, Lackawanna and Western Railroad Company,	10	73,818	17	31,127	1,230	123	72
Lehigh Valley Coal Company,	4	77,088	12	150,171	998	234	78
Red Ash Coal Company,	2	101,418	12	28,976	562	271	47
Parrish Coal Company,	5	78,709	14	37,736	1,320	116	94
Alden Coal Company,	2	111,493	5	44,597	785	392	157
West End Coal Company,	1	172,569	2	86,284	530	530	265
Warrior Run Coal Company,*	.....	.....	1	155,778	1,557	.....	1,557
Crescent Coal Mining Company,*	.....	.....	1	64,820	1,297	.....	1,297
Hillman Vein Coal Company,*	.....	.....	2	6,470	1,294	.....	647
Melville Coal Company,	1	102,966	2	20,593	460	460	230
Plymouth Coal Company,†	.....	.....	2	36,709	471	.....	235
Chauncey, George W. Milnes,†	.....	.....	.....	.....	183	.....	.....
Washeries,†	.....	.....	.....	.....	51	.....	.....
Totals,	81	106,767	‡188	46,000	23,608	292	125

*No life lost.

†No life lost nor person injured.

‡There were two persons injured at the new No. 4 shaft of the Susquehanna Coal Company, which was in process of sinking and not producing coal, adding which to the above would make 190 injured.

TABLE B—Classification of Fatal Accidents for the Year 1899. Fourth Anthracite District.

1899.	Causes of Fatal Accidents.								Occupation of Persons Killed or Fatally Injured.										Nationality of Persons Killed or Fatally Injured.									Widows.	Orphans.
	Explosion of gas.	Falls of roof and coal.	By mine cars, underground.	By falling down shafts.	By explosions of powder and blasts.	From miscellaneous causes, inside.	From miscellaneous causes, outside.	Total.	Miners.	Laborers.	Runners.	Drivers.	Door tenders.	Timber and brattice men.	Head and foot men.	Company laborers.	Engineers.	On surface.	Total.	American.	Welsh.	Irish.	English.	Poles.	Slavs.	Lithuanians.	Swedes.	German.	Austrian.	Total.		
January,	2	6	....	....	1	....	2	11	4	5	....	....	....	....	....	....	....	2	11	2	1	....	....	5	1	....	....	1	1	11	7	23
February,	....	3	3	....	1	1	....	8	3	3	....	....	....	....	....	....	....	2	8	2	2	....	....	4	....	....	....	....	....	8	6	6
March,	1	4	....	....	....	....	....	5	....	3	1	....	....	....	....	....	....	1	5	....	....	....	....	5	....	....	....	....	....	5	3	11
April,	2	3	3	....	....	....	....	8	2	3	....	....	1	....	....	1	1	....	8	4	2	....	....	1	1	....	....	....	....	8	8	8
May,	....	4	2	2	....	1	....	9	2	3	....	....	1	....	....	1	....	....	9	2	1	1	....	1	....	1	1	1	1	9	3	10
June,	2	3	....	....	1	....	....	6	4	....	....	....	....	....	....	....	....	2	6	....	....	....	....	4	1	1	....	....	....	6	3	10
July,	1	4	....	....	1	....	2	8	4	3	....	....	....	....	....	....	....	2	8	1	....	2	....	4	....	1	....	....	....	8	5	11
August,	....	5	1	....	....	1	....	7	1	3	....	1	....	1	....	....	....	....	7	1	2	....	1	1	2	....	....	....	....	7	4	5
September,	....	1	....	1	....	....	1	3	....	1	....	1	....	....	....	....	....	1	3	1	....	2	....	....	....	....	....	....	....	3	1	2
October,	2	2	1	....	....	....	1	6	1	1	1	....	2	....	....	....	....	1	6	4	....	....	....	2	....	....	....	....	....	6	1	3
November,	....	2	1	....	....	....	....	3	1	1	....	....	1	....	....	....	....	....	3	1	1	....	....	1	....	....	....	....	....	3	1	3
December,	....	3	1	....	....	3	....	7	3	....	....	2	1	1	....	....	....	....	7	1	1	1	1	1	....	....	1	....	1	7	4	12
Totals,	10	40	12	3	4	6	6	81	28	26	4	4	8	1	1	2	1	6	81	19	10	6	2	29	5	3	2	2	3	81	44	109

TABLE C—Classification of Non-Fatal Accidents for the Year 1899.

	Causes of Non-Fatal Accidents.								Occupations of Persons Seriously Injured.												Nationality of Persons Seriously Injured.										Very slight accidents not included in the tables.
	Explosions of gas.	Falls of roof and coal.	By cars, underground.	By falling down shafts.	Explosions of powder and blasts.	Miscellaneous causes, inside.	Miscellaneous causes, on surface.	Total.	Miners.	Laborers.	Fire bosses.	Timber and brattice men.	Head and foot men.	Company men.	Tracklayers.	Shaft sinkers.	Runners.	Drivers.	Door tenders.	On surface.	Total.	American.	Welsh.	Irish.	English.	Poles.	Slavs.	Lithuanians.	Swedes.	German.	Austrian.	Italian.	Total.	
January,	2	7	2	....	....	1	2	21	7	6	....	2	....	1	2	....	....	1	....	2	21	3	8	2	1	6	1	....	....	....	....	....	21	9
February,	1	6	3	....	....	2	....	15	8	2	....	1	....	....	....	1	2	1	....	2	15	1	4	1	1	5	1	....	....	2	....	....	15	13
March,	3	9	4	....	....	1	2	22	9	3	....	2	....	....	....	1	2	2	1	....	21	2	6	1	....	6	....	1	....	1	....	....	21	8
April,	1	1	3	....	1	2	2	10	3	1	....	....	....	1	....	....	....	2	1	2	10	2	3	1	1	1	2	1	....	....	....	....	10	6
May,	....	2	3	....	....	3	1	16	6	4	....	....	....	....	....	1	1	2	1	1	16	4	3	1	....	4	1	2	....	....	....	1	16	10
June,	5	8	1	....	1	1	2	18	7	6	....	....	....	....	....	....	....	2	1	2	18	5	1	3	....	3	1	....	1	1	1	....	18	18
July,	....	6	4	....	1	1	2	14	12	3	....	....	....	1	....	....	3	3	....	2	14	4	2	3	....	3	2	....	....	....	....	....	14	17
August,	....	7	1	1	1	2	2	14	6	2	....	....	....	....	....	1	1	1	1	2	14	3	3	1	....	5	....	1	....	1	....	....	14	11
September,	....	11	2	....	1	1	1	16	10	1	1	....	2	....	....	....	....	1	....	1	16	6	3	1	1	4	....	....	....	1	....	....	16	7
October,	7	6	3	....	....	1	2	19	16	5	....	....	....	....	....	....	....	....	2	2	19	2	3	2	1	9	....	1	1	....	....	....	19	9
November,	1	7	4	....	1	2	....	15	7	5	....	....	....	....	....	....	....	2	1	....	15	1	3	2	1	5	....	3	....	....	....	....	15	12
December,	....	8	2	....	....	....	....	10	3	3	....	1	....	1	....	....	....	2	....	....	10	2	4	1	....	1	1	....	....	....	1	....	10	15
Totals,	27	85	32	1	12	17	16	199	78	41	1	6	2	4	2	4	9	19	8	16	199	40	42	21	6	52	9	9	2	6	2	1	199	135

Classification of Fatal and Non-Fatal Accidents.

Causes of Accidents.	Fatal.	Non-fatal.
By explosions of fire damp,	10	27
By falls of roof and coal,	40	87
By mine cars, underground,	12	32
By explosions of powder and blasts,	4	12
By falling down shafts,	3	1
By miscellaneous causes in the mines,	6	17
By miscellaneous causes on surface,	6	16
Total,	81	190

In addition to the above, 135 slight accidents occurred which were not included as serious accidents.

There were five persons killed in the district, which accidents were not regarded as attributable to mining and were not included in the reports of fatal accidents, viz:

George Forney, who died from apoplexy on the floor of the screen room of the Parrish breaker January 25, 1899.

Patrick Kern, killed by a train of cars on surface at the Parrish colliery March 17. He was not an employe and was in his clean clothes at the time.

Frank Weisgable, killed in the mouth of an old opening used for an intake at Nanticoke March 29. He was not an employe.

Terrence Anderson, who escaped out of his home when delirious from sickness and jumped into the No. 4 shaft, Plymouth, about midnight of April 6, 1899, and John Conway, a boy who fell in the old No. 8 breaker at Ashley, while playing with other boys on June 7, 1899. The breaker was idle, and had been so for a number of years.

Mine Fires in the Year 1899.

There were three serious mine fires in this district during the year. One at the Empire mine, of the Lehigh and Wilkes-Barre Coal Company, which commenced on the night of June 9; one at the Maxwell mine, of the same company, originating from an explosion of gas on Friday morning, June 22, and one at the Dodson mine, of the Plymouth Coal Company, where the breaker was burned on Thursday, July 13, and the burning debris falling down the shaft set the mine on fire underground.

The Empire Mine Fire.

This colliery had not been in operation since 1897, but a party of men was employed to keep the gangways in order and in doing the necessary timbering. A party of miners was also employed driving

A – Where Fire originated

B – Heading driven to Seal Nº 1½ Lift.

C – Walls built to Seal Bottom Split Workings

Course of Fire

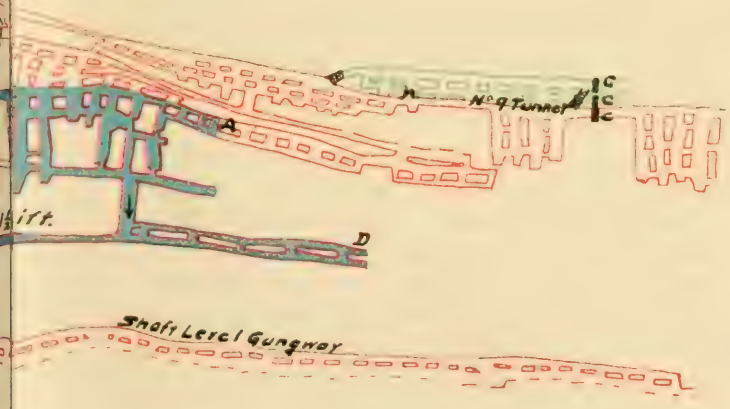
Empire No 4 Shaft.

Map of.

Bottom-Split Workings, Red Ash Vein.
at the
Empire No 4 Colliery.
Lehigh and Wilkes-Barre Coal Co.
in relation to
Fire of June 1899

Scale 1"=400'

G.M. Williams
Mine Inspector.



the first east lift gangway (marked D, see map accompanying this report). On the 9th of June the repairmen were renewing timber on the third lift gangway, at A, working with naked lights. The pitch was about 60 degrees, and the timber was thick and exceedingly dry. The day's work was finished between 5 and 6 o'clock, and the timbermen went home, leaving everything apparently safe. That evening the fan engineer on surface, seeing smoke in the return air, notified the officials, who promptly repaired to the mine and found the timbering in the third lift gangway at A on fire. There was no water anywhere near, and the workings between that and the slope soon filled with smoke and the poisonous products of the fire. The upper lift was the main return airway, but the four upper lifts were connected by breasts and had more or less of the return air passing through, making all that side unavailable for fighting the fire. A line of hose was promptly laid from the water pipe on the fifth lift to the inside of the fire, and it was directly fought with water and successfully beaten back for about 150 feet, but the timbering having burned away, the top fell and closed the gangway, making it impossible to follow farther from that side. To attack it on the return side, the breasts along the right of lift No. 3 were closed by brattices as far as the reserved pillars left to sustain No. 2 tunnel (see map), and a current of fresh air was conducted to that point. The hole, B, was also driven down from the level gangway to that of the first lift. Seeing that it was impossible to fight the fire with water, an attempt was made to close all the gangways on the reserved pillar and confine it by stoppings within that space, so as to shut the air off, but before this was effected the fire passed to the outside of the reserved pillar on the upper gangway. But, notwithstanding that the fire had passed that point, the hole B was driven through and the gangway blocked with flushed dirt in the reserved pillar, dividing the fire. Then strenuous efforts were made to follow the fire and beat it out with water. There were three lines of hose in use, but the efforts failed to stop its progress. This was dangerous work, because the heat and noxious gases of the fire inside of the reserve pillar came out through the stoppings and followed the men so that they were between two fires and in danger of having their escape way cut off. By Sunday morning, June 25, the fire had got dangerously near the air bridge where the return air conveying the heat and noxious gases crossed under the slope to ascend the air shaft. It was evident that had it destroyed this air bridge there would have been no chance to check its progress into the workings west of the slope and up the planes, therefore, it was decided to withdraw the men from their perilous work at once and to confine the fire to the workings of the bottom red ash seam and seal it from the air by walling the five tunnels leading from the bottom to the top split, the fifth lift gang-

way, the top of the manway, slope and slope airway with brick walls. The location of each wall is marked on map by C. This was all effectively done in twenty-four hours after it was decided upon. The Mine Inspector was present, watching the work day and night, and rendered all the assistance in his power, and, fortunately, although dangerous work was done, no one was injured. There is an immense area of workings closed in with that of the fire area, but the fire was of sufficient extent to produce enough non-combustible gases to fill the whole in a few hours. The complete combustion of one ton of coal produces more than three and a half tons of carbonic acid gas, which, at the mean temperature of 60 degrees and mean pressure of 30 inches, would be about 56,564 cubic feet. Besides this, 154,757 cubic feet, of nitrogen is released, producing for each ton of coal consumed, about 211,321 cubic feet of non-combustible gases. Where a fire is large and burning freely, every part of the workings is soon filled with the non-combustible products of the fire and as it is filling, the air is being driven out. Carburetted hydrogen gas is also non-combustible when not mixed with air, and serves to smother a fire as effectively as carbonic acid or nitrogen. When the carbonic acid is all driven out and the workings filled with carburetted hydrogen gas unmixed with air, the fire cannot burn for the presence of this gas proves that the fire has ceased burning, and that carbonic acid is no longer produced, but there are good reasons for believing that a mass of red hot coals retain heat enough for several months to rekindle it on the admission of air in a mine where its surrounding gases are stagnant. There is nothing to absorb or carry the heat away, therefore the air should not be admitted for at least five or six months after a fire has been isolated and enclosed from the air. At this writing the Empire fire has been shut in for eight months and it is not yet opened. If this method proves effective to extinguish the fire at the Empire, of which I have no doubt, it would certainly prove effective in all mines excepting workings near the outcrops or surface, where air may be forced in through the earth by the pressure of the atmosphere.

At the Empire mine, a vast area of workings had to be enclosed with the fire, and there is only a small quantity of carburetted hydrogen given off in the workings, both being highly disadvantageous for effective suffocation of the fire. So far the indications are that the workings are densely filled with non-combustible gases, but there is no heat nor any indication of the fire burning, and no indications of the existence of fire has been seen since it was sealed in.

The Maxwell No. 20 Mine Fire.

At about 8.30 A. M., June 22, 1899, a small body of gas was ignited in a breast on the red ash seam of the Maxwell mine, and two men

were more or less severely burned. The seam at that place was faulty and the coal was soft and shelly. The explosion left gas feeders on fire, which in a short time ignited the loose coal.

While efforts were being made to restore the airways and to get water to fight the fire, a second explosion took place more fierce than the first, and this frightened all the men out. The officials were nearly all at the Empire fire, but they were called to this mine as speedily as possible. The fire was in one or two breasts, but a large body of explosive gas had accumulated in a number of other places near by. At about 5 P. M. it was discovered that a miner, Antoni Maksenovitch, working one of the outer breasts was missing and had not come out of the mine. He was called out by his laborer immediately after the occurrence of the explosion, but failed to come. The lights having been blown out by the concussion, everybody groped their way out without light except him, and nothing was said about him by his acquaintances until about 5 P. M. His body was found lying behind the brattice a short distance down from the face of his breast, he having been suffocated by the after-damp. He worked in a breast a long distance away from the seat of the explosion. Owing to the evident probability of another explosion taking place, and lest some of the workmen should be injured thereby, it was decided to shut the air off from a section of both the gangway and airway by flushing them full of culm at a large reserve pillar a long distance back from the seat of the fire. This was accomplished within two or three days, and it has been left there to the present time, a period of eight months. There are conditions where a passage can be closed by flushing dirt or culm without exposing the men to danger and such conditions existed here, but it has the disadvantage of being slow and gradual, and to reduce a current of air gradually in a gaseous mine having a fire burning is almost certain to create a large body of explosive gases and to produce explosions, yet it is not known that any explosion took place here. The reduced air current allows gas to accumulate and at the same time supplies the air necessary to make it highly explosive, which, if ignited by the fire, causes destructive explosions. Again, to remove the culm which invariably is spread over a long distance is slow and expensive, and besides that, the air is gradually admitted, and if there should be even a small red hot piece of coal it would be fanned to a live fire before the volume of air was restored in sufficient quantity to dilute the gases and assure safety. Where a mine or part of a mine is sealed by flushing, the time of greatest danger is when it is being reopened. At least it is a period of a great deal of uncertainty and which lasts for several days, but with doors well fitted, the air can be cut off instantly and admitted again just as quickly. Where the air can be cut off effectively at once, the chances for an explosion are

much less, and especially is this the case in mines where a large quantity of marsh gas is emitted. The gas is emitted at a higher rate than the velocity of natural diffusion and it accumulates in a pure unmixed state, which is not explosive and does not support combustion. Therefore, the probability of its accumulating around a fire without exploding, is much greater than it would be if the air was gradually reduced and mixed with marsh gas.

The Dodson Mine Fire.

At about 6.15 A. M., July 13, the Dodson breaker of the Plymouth Coal Company, at Plymouth, was discovered to be on fire. In a short time the whole structure, including the shaft tower and engine house was aflame and was totally consumed. The shaft cages, sheaves and a mass of burning timber fell down the shaft, which set the pump room and timber at the foot also on fire. Streams of water were poured down the shaft to extinguish the fire below, but the air current caused by the falling water drove the fire into the workings. There were fifteen men in the mine, but they came out safely through the Gaylord mine. Soon after they had started out, the burning shaft became the upcast and the fan was stopped. At this time the fire bosses went in from the Gaylord mine and found the bottom of the shaft a raging mass of fire. They came out and recommended pouring water down and when this was done the shaft became a downcast and the mine was soon filled with smoke. Later the water was stopped and an attempt made to go into the mine from the Gaylord workings in the Ross seam. On reaching a rock slope sunk from the Baltimore to the Red Ash, they found the slope full of fire damp, being drawn up from the Red Ash seam, and they hastily returned and reported the situation. At 9.30 P. M. a shock, as if an explosion had taken place inside, was felt on the surface.

The following day, July 14, at a conference of the officials and mine superintendents, it was determined to flood the mine with water. While the preparations for flooding were going on, the shaft and all other openings to the mine were hermetically sealed, and on July 17 the pouring of water down was stopped. The whole mine filled with non-combustible gases in a few hours. On July 19 explosive gas appeared at all the stoppings, which showed that carbonic acid was no longer produced, and that combustion has ceased. The carburettd hydrogen had no air intermixed and so was not combustible. On July 30, at 4.30 P. M., thinking the fire extinguished, the stoppings at the Gaylord mine were reopened and the Dodson fan was put in operation to ventilate the mine. On August 2 explorers entered the mine but failed to go to the seat of the fire owing to falls of top and explosive gases. On August 3 a second exploration discovered a

small fire burning between the head of the Rock slope and foot of plane. The next day the fire was much more extensive and the mine was again closed. On August 9, there being not enough non-combustible gas to fill the mine, it was decided to ventilate it and try to fight the fire directly. This was tried for twenty-two days without success, under a great disadvantage owing to the great distance for water to be conveyed and the material through old workings, having no roads or tracks. On September 2 it was decided to fill the mine with water. All openings were again hermetically sealed and a large stream of water was pumped in from the Susquehanna river until 6 A. M., October 4, when it was stopped, having reached a height of 118 feet in the shaft, a vertical height of 545 feet from the lowest point in the mine.

At this date, February 8, 1900, the water has been pumped out to the shaft bottom, but the slope extending through the measures to the Ross and Red Ash seams is still full, as is also the workings of said seams. It was exceedingly difficult to repair the shaft and pump the water out, but it has been accomplished without an accident. The gangways leading from the shaft to head of slope are all closed by falls of top and will have to be reopened before the water in the slope can be reached.

On repairing the shaft it was seen that a destructive fire had also been in the old Hillman vein, leading in from the shaft a distance of about 200 feet. The timber had all burned away and the fallen roof had been on fire, but this had been extinguished by the non-combustible gases during the time the air was excluded. The water had never got near it, but the air had been sealed off from that seam for a much longer time than it was from the Baltimore seam lower down where the shaft terminated. The lower part of the mine was effectively sealed for only thirteen days and there being a large fire, some of it was still burning when the non-combustible gases were forced out and replaced by a current of air. It is evident that where a mass of material is on fire, while combustion is stopped by an atmosphere of non-combustible gases, the process of cooling is exceedingly slow, and it requires more forbearance than most men possess to wait the necessary time for the heat to be entirely dissipated.

It has been demonstrated a number of times, that to fill an extensive mine with water and pump it out again and repair the damage which is done at all times to the gangways and airways, and the workings generally, it takes from nine months to a year and a half to remove the effects, and an enormous expense must be incurred. The time required to extinguish a fire by sealing and excluding the air is exceedingly uncertain, but it has been proven many times that two or three weeks is not long enough, even under the most favorable

conditions, but in cases where it has been kept sealed for five or six months it has been successful if a non-combustible atmosphere is secured and the conditions are favorable for maintenance of such atmosphere.

The Great Danger to Mines from Outcrops of Coal Seams and Pot Holes Buried Under Deep Deposits of Quicksand.

Next to that attending the emission of large volumes of explosive gases, the cause of the greatest anxiety for the safety of the mines in the Fourth Anthracite District is that which is presented by the possibility of a mine-working striking a deep pot hole, crevice or the outcropping of a coal seam buried under a great depth of detritus consisting of sand, gravel or clay. Contemplation of the probable physical condition of the surface of the rock strata and of the probable existence of pot holes, deep crevices or channels, and of the irregular form of the outline of the outcrops of the coal seams beneath the deep deposit of gravely wash found in the Wyoming Valley, makes one shudder lest a calamity causing great loss of lives should occur in some of the mines. The Wyoming coal basin has been likened in a general way to a huge canoe in form. It is about fifty-eight miles in length from Forest City to a point three miles west of Shickshinny. The ends are narrowed, like the point of a spoon, but the breadth in the widest part is from three and a half to four miles.

The base of the coal bearing strata is the well-known conglomerate rock seen exposed at the crest of the mountain sides all around the basin. Taking the conglomerate rock to be the canoe-like base, the coal-bearing strata consisting of alternate layers of rock and seams of coal are like a pile or series of canoes of gradually reduced sizes laid in or upon one another in the canoe-like form of the conglomerate. The greatest depth of strata hitherto tested at the bottom of the valley lying above the conglomerate is about 2,200 feet, which was tested by a borehole in Hanover township, in the neighborhood of Hanover park.

The conglomerate rock is found turned up and exposed on the surface forming the crest of the east and west slopes of the mountain ranges on each side of the Wyoming and Lackawanna Valley. At a line lower on the mountain slope we find the crop of the rock overlying the conglomerate, and lower still the outcrop of the lowest coal seam, known here as the Red Ash seam. Passing another series of rock and slate outcrops, each at lines lower on the slope, the second coal seam appears, which is known as the Ross seam. Lower still, small areas here and there of the third, the Baltimore seam, are found to have extended up the side of the mountain, but the outcrop of that is most generally found at or near the base of the mountains, except in places where it has been washed away. The outcrop of all other seams are at various lines at the bottom of the valley, if at all exist-

ing. Thus the mass of the coal bearing strata lies at the bottom of the valley, only that the edges of two and in some places three of the lowest coal seams extend more or less up the side of the mountains, the lowest extending to the highest level.

The canoe-like structure of the basin is broken by several ridges rising from the bottom and forming several minor basins lying in a direction slightly diagonal to the axis of the main basin, and outcrops of some of the upper coal seams reached the surface on these ridges, at various points in the coal field, but the said ridges and minor basins are mere rimples in size as compared to that of the main basin. Evidently they were caused by lateral stress during the subsidation of the valley. Studying the physical aspect of the surface of the rocks, and the various great deposits of gravel and sand in the Wyoming Valley, opens to the human mind a wide field for imagination as to how nature in the past eons of time produced the mysterious perplexing results presented to our view to-day. Evidently streams of water rushed in torrents for ages over the coal basin while it was yet a shallow valley, washing away large sections of the softer rocks and edges of the coal seams, and producing deep gorges, channels, shaggy precipices and pit holes. Subsequently, the bottom of the valley seems to have slowly subsided, gradually sinking, and finally settling at a depth several hundreds of feet below the level of the then existing water outlets. The whole valley sunk, but the greatest subsidence took place along the west side in the wide channel known as the Susquehanna river flats, and extending from the eastern end of Marcy township to the western end of Newport township. The center, or deepest point of subsidence was about midway between Wilkes-Barre and Nanticoke. At this point, the surface of the rock is proven to be over 300 feet vertically lower than the present bed of the river, and lower than the present outlet of the river at Nanticoke. Owing to this great subsidence to a level many hundreds of feet below the outlets, the whole valley became a deep lake, with the river flowing through. During the ages of its existence as a lake, the river floods passing through, brought the detritus of other regions, consisting of sand, clay and pebbles having no resemblance to the rock of this valley and deposited it in the lake, settling at the bottom to a depth of several hundreds of feet. Thus, every hollow, every gorge, channel and craggy outcrop of the coal seams was buried deep under the gravelly deposit. Subsequently, while the river was slowly grinding down the inlet gap at Pittston, and also the outlet gap at Nanticoke, the standing water of the lake ran out so that finally the lake disappeared and since then, the river and every small stream has been wearing down and eroding its channels through the gravel deposit to their present state and level. The residue of all this is the large number of high sand hills dotting the valley and the greatly varied depth of gravel deposit found

everywhere filling the hollows where the surface of the rock strata is lower than the present beds of the streams.

Now, when we consider that the outline of the outcrops of the coal seams are at many places buried under this gravel and that wherever the gravel is at a lower level than the seams and that it is saturated with enough water to cause it to flow as freely as water, we realize that to mine the coal in those parts is exceedingly dangerous. Hitherto, no means have been discovered by which the exact outline of the outcrop of a coal seam, a pot hole or a channel or crevice can be located where they are covered under a depth of detritus. The existence of the detritus on surface eliminates all traces of the contour of the rock surface. The only means hitherto used to ascertain the depth of gravel and thickness of rock overlying seams, is by boring holes, but the area tested by a borehole is so small that very little definite knowledge is obtained. A dangerous crevice or pithole may exist within a radius of a few feet from a bore hole and not be discovered. The writer has seen a crevice in the rock fully four feet wide and filled with sand, but, fortunately, it was high on the side of the hill where the sand was dry and no accident resulted on tapping it. A bore hole might strike within a foot of such a crevice and not show a sign of its existence.

As a precaution and assurance against accident, each of the coal mining companies is spending large sums of money in boring test holes from the surface in advance of the workings in all localities where the gravel is known to be of dangerous depth. The greater number are sunk by piping to ascertain the depth of gravel and clay, and also the elevation of the surface of the rock above the tide level beneath these deposits. The mine surveys determine the relative elevation of the working in the mine so that when the elevation of the mine and the elevation of the top of the rock is obtained, the thickness of rock overlying the coal seam is easily calculated. In addition, a few holes are bored right through the strata which, besides testing the thickness of rock, serve to verify the surveys. A few years ago, at about midway between Wilkes-Barre and Nanticoke on the flats, a bore hole proved the wash to be over 300 feet in depth. This was a startling discovery showing that the sand deposit was of much greater depth than was formerly supposed. Before and since that time a large number of holes have been sunk to test the depth of detritus in the valley all the way from the gap at Pittston to the western end of Newport township, and the understanding between the Mine Inspector and operator is that it is not safe to mine the coal where there is less thickness than 100 feet of rock overlying the seam, i. e., where a dangerous depth of gravel exists over the rock. The matter is of such vital importance to mine owners involving the safety of the employes and

property, that since their attention has been called to the existence of the danger it has been necessary for the Inspector only in one or two instances to speak of it. The ground is tested by bore holes drilled at points on the surface in advance of the workings so that a fair assurance of safety is continually maintained. Holes are bored whenever and wherever they are suspected to be necessary. Yet with all the precaution taken, a large body of quicksand broke into three of the mines of this district during the year 1899. Fortunately no lives were lost in either case, but this was due to the conditions existing more than to the precaution taken. The fact is that no such occurrence was thought of at these points, and no parties connected had any apprehension of danger.

On January 18 and 19, 1898, Mr. Robert Brownlee, then Chief of the Bureau of Mines, visited this district at the request of the Mine Inspector and examined the maps of each company showing the location and records of the bore holes, and had the whole situation explained to him and he was invited to suggest improvement in the precautionary work, but he seemed satisfied with what was being done and tacitly approved all without suggesting anything. Really a satisfactory solution of the problem of locating the seat of danger at all points is impossible with the means at hand at present. In the valley extending from the Empire to the lower end of Wanamie the depth of wash varies from about sixty feet, down. In the section extending from the Empire to Ashley, the outcrop of the seams lying over the Hillman are covered by more or less wash, but the Franklin mine is the only one working those seams at present. On the 2d of February, 1899, a rush of sand and water broke into a breast on the Kidney seam, in the Franklin mine, which filled the gangway to a height of about three feet for a long distance. No person was injured, but considerable alarm was caused. After that it was secured by a strong battery and the breasts in that section of the mine were stopped. The outcrops of the Hillman and also of the overlying seams are covered by wash all the way from the western line of the Franklin colliery to Alden, but these seams are not mined at present towards those outcrops anywhere east of the Bliss mine, near Hanover. Tuesday afternoon, April 25, 1899, a large body of sand and clay broke down a breast working on the Hillman seam, in the Bliss mine, immediately after a blast had been fired. The inside men were instantly called out and some had a hard struggle to wade through the mud, but all escaped unhurt. The gangways and tunnel leading into that seam were filled tight to the roof. It left a conical depression on the surface sixty feet in diameter and forty feet in depth at center, and work in that lift has not been since resumed.

On the 30th of December, 1898, a rush of quicksand broke into a breast on the Cooper seam, in the No. 18 slope at Wanamie. Five

men were closed in for a short time, but fortunately the inrush of sand stopped, and the men got out by going down to a lower lift, wading out through a depth of two feet of mud for a distance of 300 feet on the gangway. About a mile farther west, on the 30th day of June, 1874, a fall in an idle breast on the Red Ash seam east of No. 19 slope, was instantly followed by a rush of sand and water. A man named John Blacksmith was caught in the rush and killed when some distance out on the gangway. It took several days of incessant work to recover his body. These incidents prove that great danger exists in the apparently dry valley lying along the base of the mountain on the southeast side of the basin all the way from the Empire, to No. 19 slope, Wanamie.

Taking the other side of the valley from Glen Lyon to the eastern end of Marcy township, the danger is much greater because the depth of wash or detritus is much greater and the outline of the outcrops is harder to locate. From Glen Lyon to Nanticoke the outcrops of all the coal seams except the two lowest, the Red Ash and Ross, is buried under a depth of from 170 feet, down. The Susquehanna Coal Company has drilled in the Glen Lyon property, 15 diamond drill holes from surface, 294 test holes with pipe and jumper, 2 culm holes and 3 holes for signals, a total of 314 holes. These have showed the depth of sand to be from 100 to 160 feet. In the neighborhood of Stearns, midway between Glen Lyon and Nanticoke, five diamond drill holes and four test holes were sunk. In the same channel, in the vicinity of Nanticoke, 273 test holes through the gravel only, 5 diamond drill holes, 4 culm holes and 13 for signals, all testing the depth of sand, and giving the required data for calculating the thickness of rock between the gravel and coal seams. These holes have proven that a deep channel filled with detritus to a depth of from 100 to 260 feet extends from Glen Lyon to the gap at Nanticoke.

On the 18th of December, 1885, an immense body of quicksand broke into the workings of the Ross seam of No. 1 slope, in the path of the described channel, which caused the loss of twenty-six men. It broke into the mine on the apex of an anticlinal where no danger was suspected. The rock was exposed on surface on each side, while between these points a narrow gorge in the strata was eroded and washed away to a depth of 264 feet, and its place filled with sand and clay, level with the surface. It was up on the side of the hill four or five hundred feet from the present bed of the creek which now runs over a rock bottom. Prior to the accident no one had suspected the existence of such a channel and mining was done with perfect confidence in its safety from any such occurrence.

On April 13, 1899, sand and water broke into an old breast near the outcrop of the Hillman seam of the No. 2 slope at Nanticoke and ran, in despite of great efforts to stop it until it filled thousands

of feet of every passage leading into the mine. The breasts on that lift were worked and stopped owing to their proximity to the outcrop about twenty-six years ago. Evidently the break was in the same buried channel as the accident of December, 1885, but about 1,000 feet farther southwest. It was supposed that there was about sixty feet of rock overlying the seam under a deposit of about ninety feet of detritus. Fortunately the mine was abandoned and employed no men, otherwise there would have been no chance for one to escape. Notwithstanding the effort to guard against such inbreaks of sand by boring hundreds of holes at suspected points, they have occurred in each instance at points where no danger was apprehended.

Between the Nanticoke gap and a line opposite the upper end of Plymouth, the outcrop of every seam in the coal measures is buried under a great depth of detritus, known to be at some points over 300 feet. No one knows where, nor of what form is the line of the outcrop of any seam, and there are large patches of some of the seams having only a thin covering of rock. It can be seen on the surface at the gap at Nanticoke that the Red Ash has been washed away in a long bend extending hundreds of feet back under the flats. The Ross vein is in the sand a short distance west of the Avondale colliery. The Delaware, Lackawanna and Western Railroad Company has bored fifteen holes on the Avondale property and discovered that a wide strip of the Ross seam extending across the property under the flats along the railroad did not have sufficient rock covering to warrant its being worked with safety, and the coal was left unmined. The outcrop west of the mine is not located, but they are not mining anywhere near it in that direction.

The outcrop of the Baltimore seam is covered by a great depth of wash all the distance from the Nottingham shaft at Plymouth to a point somewhere east of Nanticoke. Its location and outline is not yet more than approximately defined, but it is known that there is a large area lying between the river and the Delaware, Lackawanna and Western Railroad, where the seam has been washed away. The Parrish Coal Company, which is working this seam, has bored twenty-eight holes to test the depth of sand and covering of rock over the seams. They are working the Five Foot seam also, which outcrop is buried deep under the wash some distance east of that of the Baltimore. This is the region where the greatest depth of detritus has been found, but it is worked carefully and cautiously. Both the Lehigh and Wilkes-Barre Coal Companies and the Parrish Coal Company are interested in working this region with safety. The Lehigh and Wilkes-Barre Coal Company has bored forty-three holes and has made a map from the data obtained from the test holes of both companies showing a line within which is a safe

limit for the workings and where a rock covering of at least 100 feet thickness is overlying each seam. East of this line, the Hillman seam gets under a rock covering, but that has not been mined yet under the flats from any colliery.

From Edwardsville all the way up the valley, the outcrop of all the seams lying over the Five Foot is at various lines under the detritus of the flats, and in January, 1882, it was discovered that a wide channel of the Five Foot, known there as Six Foot seam, had been washed away under the flats at the Maltby colliery, where it was intact on the side of the mountain, and also farther east under the flats. A rock plane was driven up from the Eleven Foot seam intending to work the Six Foot, but a round of blasts instead of striking the coal tapped the sand, which, in a few hours, filled the mine to a height of ninety feet in the shaft and there it stays. The men who were driving the plane had a hard struggle to escape, and lost all their tools.

At the Fuller colliery, on the night of April 23, 1884, the workings of the Six Foot seam were lost in a similar manner. A miner fired a shot at the bottom of an underground slope 900 feet down from the shaft level, and simultaneously water and sand broke in and filled the workings to the top of the slope, where preparations had been made to stop it. The bore holes showed that the seam was covered by thirty feet of rock, but a blast in the coal brought the sand in. Evidently a crevice, a pot hole or a deep channel existed in the rock which was not discovered by boring.

In the spring of 1873, a cave brought sand and water into the workings of the Hillman seam in the old Burroughs mine, at Plainsville. The Hillman workings of the Enterprise colliery were connected. This having been anticipated by the late J. H. Swoyer, operator, a dam had been erected to protect the Enterprise shaft. When the water and sand broke in, it caused such a wind that the lights of all the employes of the Enterprise mine were extinguished, but all escaped uninjured by groping their way out in the dark. The Hillman seam, then called Eight Foot, has only a thin rock covering in that locality, and its outcrop lies under the flats between there and Edwardsville on the west side of the flats. The Dorrance mine is the only one working the Hillman seam towards that outcrop, and the Lehigh Valley Coal Company has established a limit line for the workings where it is known that at least 100 feet of rock lies over the seam. Seven holes have been sunk, which test the depth of the sand and thickness of rock over the seam. This company has sunk nineteen holes to secure the workings of the Maltby colliery and 130 in the Exeter property at West Pittston. They divide the land into squares of 200 feet and bore a hole at each corner wherever the safety of the mine is in doubt.

At 5 P. M. March 1, 1897, a large body of sand and water broke

into the workings of the Mt. Lookout colliery at Wyoming. Fortunately the mine had stopped working on that day at 3 P. M. and the men were all out. The sand in an incredibly short time filled a large area of the workings. The breast, where the sand broke in, had become very wet and the miner left at noon so that he could buy a suit of oil clothes for work the next day. Evidently the water percolating through the roof and coal was, in this case, an evidence of the proximity of a pot hole, crevice or denudation of the coal seam near the face of that breast, but water is frequently found in mines where no danger whatever exists, and its appearnce does not cause any apprehension of danger more than it did in this instance. A bore hole some distance off in advance of the workings showed that there was forty-three feet of rock over the seam, and eighty-six feet of sand overlying the rock. The company previously had forty-six holes bored at various points on the property, and thought that they were in perfect safety, but the breaking in of the sand was a proof of the existence of a crevice or pit hole not discovered by boring. The same company has bored seventy-six holes in the land mined from the Forty Fort and Harry E. collieries. Thus, it is shown that there is ample proof that no matter how numerous the test holes may be they do not cover the field so as to furnish absolute security against accident; yet I am quite sure that had holes not been bored, many of our mines would have been irretrievably lost, and most assuredly numbers of the employes would have been lost in them, for large areas of unmined coal have been left in the ground because the bore holes proved it to be too dangerous to attempt to mine it out.

Inrush of Sand and Water Into the Workings of Slope No. 2, Nanticoke, Pa.

At about 10 o'clock Thursday morning, April 13, 1899, sand and water broke into an old breast near the outcrop of the Hillman seam in the old workings of the No. 2 slope of the Susquehanna Coal Company at Nanticoke. Fortunately, it ran into the working of an exhausted mine which had been abandoned. The old breast, where it broke in, had been worked out about twenty-six years ago, and though the workings were examined frequently no indication pointing to the probability of this occurrence was previously seen. No one was hurt, because there was no person employed in the workings which were inundated. Some of the pumpmen, though, who were in upper lifts had a narrow escape. It was supposed that a thickness of about fifty feet of rock was overlying the coal seam at the face of the breasts where the sand broke in, but it is now evident that the rock was not so thick as supposed. It cannot be definitely explained why it broke in at this time when no work was

being done anywhere within some thousands of yards of the locality. The breasts were wide, and a fall of top rock evidently opened a way for the sand to burst in. It was first noticed on the surface by persons passing. A small hole was seen sinking in the ground, and soon after, it rapidly widened so that the creek, which was only thirty feet off, ran in. The hole became larger and larger. A large force of men was assembled and trees, props and brush were thrown into the vortex to be swallowed instantly out of sight. It ran for about twenty-five hours and carried an enormous quantity of sand and clay into the workings, filling thousands of feet of the gangway, and then stopped. The surface depression soon filled with water, making it appear like a small lake, with a depth of from seventy to eighty feet. As soon as practicable the depression was filled with culm and rock from the breaker dump, and finally the creek was forced back to its formed channel. Every passage leading into the workings of No. 2 slope was filled with the sand so that no examination could be made, and the pumps were also covered and temporarily lost. The water ran to the lowest workings and filled the airways so as to impede the ventilation of a part of the No. 1 shaft, Hillman seam workings. This mine had to suspend work for a few days until the obstacles were removed and ventilation restored. A large body of the water also ran into the Mills seam and into the workings of the lowest lifts of the No. 4 slope, filling the slope extension and the two lowest lifts of the workings, and submerging the pumps. New pumps had to be installed, and although they have been pumping incessantly for several months the water is not yet all out. It is evident that if this had broken in when the mine was in operation, and when the men were in the mine, a large number of lives would have been lost, but having broken into abandoned workings, the only damage done was that caused by the water flowing into the workings of the No. 4 slope and No. 1 shaft.

Inrush of Quicksand at the Bliss Mine.

Tuesday afternoon, April 25, 1899, a large body of sand broke into a breast working in the Hillman seam of the Bliss mine, Delaware, Lackawanna and Western Railroad Company, in Hanover township, Luzerne county. The men who were employed inside on the same gangway escaped by wading through mud knee deep, while it was still flowing. In a short time the gangways east and west and the tunnel leading into that seam were completely packed tight to the roof. The quantity of water was barely sufficient to liquefy the sand, and it soon blocked and stopped running. All the men had gotten out safely. It left a conical depression on the surface about sixty feet in diameter and about four feet deep in the center.

The north outcrop of the seam at that point was covered by about sixty feet of sand. That part of the mine has not been worked since, and the gangways have not been cleared, and it is premised that no work will be done in that lift until some time in the future.

This occurred in a locality where there was no stream or body of water anywhere in sight on the surface, and where it was believed that no danger existed.

Annual Examination of Mine Foremen.

The annual examination of applicants for certificates of qualification for mine foreman and assistant mine foreman was held in the common council room, city hall, Wilkes-Barre, May 23, 24 and 25, 1899.

The board of examiners was G. M. Williams, Mine Inspector; H. H. Ashley, Edward Mackin and Andrew McGeehan.

The following named aplicants passed a satisfactory examination and were recommended to have certificates of qualification as mine foremen, viz: Maurice Williams, Robert Johnson, William N. Thomas and Evan Thomas, of Wilkes-Barre; Richard L. Evans, of Edwardsdale; Lewis Richards, John T. Cartwright and Richard R. Jones, of Nanticoke; David Edwards, of Ashley; William H. Harrison and Richard T. Morgan, of Plymouth.

The following named persons were recommended to have certificates of qualification for assistant mine foremen, viz: Alexander Lawrence, Timothy Cronan and Frank Mills, Alden; Thomas Saunders, Mark Lloyd, William E. Thomas, Robert Richards, John Griffiths, Robert M. Smith, Edward D. Williams and Evan R. Jones, Nanticoke; David B. Morgan, Charles Price, Isaac Greenaway, Reuben Hoffman, William Morgan, Lewis Keen and Lawrence Keen, Glen Lyon; William Dedalis, Ashley; William E. Jones, Sugar Notch; Lewis R. Thomas and Alfred Gibbs, Wilkes-Barre; William Duffy, Thomas Bellamy, Joseph Harrison, Morgan W. Griffith, Morgan Williams and E. P. Evans, Plymouth; William J. Evans, Parsons, and Charles Johnson, Christopher.

Improvements made at Lehigh and Wilkes-Barre Collieries During 1899.

Hollenback Colliery.—Tunnel from bottom to top split Red Ash, 40 yards; duplicate steam line from breaker boilers to fans at airshaft.

South Wilkes-Barre Colliery.—Tunnel from Hillman to Kidney, 110 yards. Rock airway, Stanton to Hillman vein, 55 yards. Rock airway, Hillman to Kidney vein, 30 yards. Five hundred horsepower Babcock & Wilcox boilers to replace cylinder boilers.

Stanton Colliery.—Tunnel from Baltimore to Five Foot, 55 yards.

Rock airway, Baltimore to Five Foot, 20 yards. Tunnel from bottom to top split red ash, 10 yards. Steel head frame at shaft.

Jersey Colliery.—Rebuilt Jersey breaker to screen culm banks of collieries No. 6 and No. 8.

Sugar Notch Colliery.—Steel head frame at shaft. New trestle from head frame to breaker.

Lance Colliery.—Tunnel from Cooper to Five Foot, 55 yards. Tunnel from Baltimore to Cooper, 35 yards. Rock airway, Baltimore to Cooper, 35 yards. Pair of 18x30-inch engines erected at No. 2 airshaft for operation of Red Ash plane.

Wanamie Colliery.—Tunnel, Baltimore to Cooper, 20 yards. Annex to breaker to secure better preparation and increase output. Two hundred and fifty horse-power Babcock & Wilcox boilers.

Maxwell Colliery.—Rock airway, Ross to Baltimore, 50 yards; 30x48-inch Corliss engines for Red Ash shaft. Two hundred and fifty horse-power Babcock & Wilcox boilers.

Improvements by the Delaware and Hudson Company, 1899.

Baltimore No. 2 Colliery.—No. 5 slope in Red Ash vein now down 1,300 feet and probably in basin; 820 feet driven in 1899. No. 1 tunnel from bottom split, Red Ash to top split, 307 feet long. Rock return airway for No. 1 tunnel, 87 feet long. One Ingersoll air compressor 20x18x30 inches. Air used for 10x12-inch engines on plane in Red Ash vein carried down bore hole 630 feet long at Pine street.

Baltimore Tunnel, No. 4 Shaft.—Completion of No. 5 slope in Red Ash vein, 1,600 feet long. Now in operation. Engines, pair 18x36-inch on surface, in stone engine house, 20x40 feet. Rope runs through bore hole. Boiler plant, three locomotive type boilers, 60x23 feet 3 inches in brick boiler house, 46x60 feet. This plant displaces the twelve cylinder boilers at mouth of tunnel and one locomotive boiler at Pine street. No. 6 slope, Red Ash vein, now down 1,000 feet.

Baltimore Slope.—No. 3 slope in Red Ash vein extended. Now down 1,700 feet and in basin; 300 feet driven in 1899. Endless rope haulage, 900 feet long, transporting coal from head of slope to foot of shaft. Engines, 10x10 inches, located at head of shaft. Ropes carried down pump shaft. The track gauge was changed in July, 1899, from 4 feet 8½ inches to 3 feet.

Conyngham.—No. 6 plane, Abbott vein, now up 1,400 feet, still driving. No. 7 plane, Kidney vein, now up 1,020 feet, completed. No. 2 slope, in Baltimore vein, down 900 feet in basin. The air shaft at main shaft has been retimbered and relined, as has the one at Hillman shaft. One Ingersoll air compressor, 20x18x30 feet. Air pipes passes down shaft to Hillman vein, where the air is used to operate two hoisting engines, 10x12 feet, and one pump, 24x10x24 feet.

Plymouth No. 1.—Foot of shaft in Hillman vein, has been cleared up and very heavily timbered. Large sump driven below shaft in vein, and a duplex Janesville pump, 22x10x36 feet, has been installed. Began pumping October 1. Capacity, 1,000 gallons. This work has all been done preparatory to sinking the shaft down to the Bennet vein.

The Plymouth Pumping Plant.—A pump room, 17x59 feet, with offset 10x15 feet 6 inches. Stone side walls and brick arch. A Janesville compound duplex, 26x50x16x48 inches, with a capacity of 3,000 gallons, has been put in place. This pump is provided with a pump condenser. In connection with it there has been completed a 20-inch more hole for pumping water, which is 585 feet in depth.

Plymouth No. 2.—Car haul at foot of shaft, Red Ash vein, 70 feet long. Elevates empty cars to run back to slope, 400 feet away. No. 2 slope, in 5-foot vein, extended 300 feet. Ten-inch bore hole for flushing culm. High pressure boiler plant, four locomotive type of boilers in use; 78x28 feet 2 inches; brick boiler house, 54x81 feet. Boiler house is large enough for six boilers. Three cylinder boilers added to boiler plant.

Plymouth No. 3.—Completion of sinking shaft to bottom Red Ash vein, making total depth of shaft about 750 feet. Foot opened out about 50 feet on each side of shaft.

No. 7 tunnel through fault in Hillman vein, on shaft E gangway; 207 feet in length.

No. 9 tunnel from Five Foot to Stanton vein, about 400 feet.

No. 10 tunnel from Hillman to Lance vein, 259 feet long. Are driving plane airway in Lance to connect with airshaft. Now up 300 feet.

Abbott slope from outcrop to D. Low line, 450 feet long. Are driving gangways and airways east and west.

Six-inch bore hole for drawing Abbott, Lance, Five Foot and Cooper veins to Bennet vein and Plymouth pump plant at No. 1. Extension No. 1 air shaft to Five Foot vein, about 40 feet.

Plymouth No. 4.—No. 2 slope, in Ross vein, down 300 feet, going. No. 1 slope, in Red Ash vein, extension 200 feet, going. Rope hole for Ross slope. Pair engines, 18x36 inches, first motion. Frame engine house, 20x32 feet. Rope haulage, 900 feet long. Endless rope transporting cars from No. 4 to No. 5. Engines, pair 10x12 inch.

Plymouth No. 5.—Completion of No. 3 plane, in Red Ash vein, to connect No. 4 colliery. Plane, 2,200 feet long, operated by pair engines, size 22x48 inches, at No. 4 colliery. Rope is taken down No. 4 air shaft. No. 4 plane in No. 4 tunnel, Five Foot vein, 400 feet long. Connection of top split working with air shaft and hoisting shaft for second opening.

Boston.—Extension of No. 4 plane in top split of Red Ash through.

Plane is now up 1,400 feet. At present is driving through fault or upthrow to bottom split in which vein the plane will be continued. Sinking slope and airway in Red Ash bottom split. Now down 1,400 feet. This slope will be an engine plane and second opening for No. 3 colliery. Pair hoisting engines, size 18x36 inches, at outlet shaft. Brick engine house, 22x43 feet.

Improvements by the Susquehanna Coal Company, 1899.

The principal improvements made by this company during 1899 have been in opening a tract of coal land situate at Stearns Station, Newport township, Luzerne county, about half way between their Nanticoke and Glen Lyon lands; these consist of three shafts in process of sinking, viz:

No. 4 shaft, four compartments, 15 feet 6 inches by 33 feet 10 inches inside, concrete coping; this has been sunk 430 feet and provided with a steel head frame 48 feet high to carry four 14-foot sheaves, one of which is in place; temporary hoisting engines, 18x36 inches, geared 3½ to 1, to 12 foot drum; 6-foot Sturtevant ventilating fan and compressor, 20x20x30 inches, with the necessary engine, fan and compressor houses.

No. 4 air shaft, being sunk as a second opening for No. 4 shaft, is located about 330 feet northerly from it, size 14x16 feet, inside concrete coping; this has been sunk about 100 feet and provided with wooden head frame 35 feet high, and permanent 15x48-inch direct acting hoisting engines, with 6 foot drum, the intention being to use a small carriage about 5x8 feet in one corner for hoisting men and materials, for repairs and in emergencies; there is also a ladderway partitioned off, the shaft being used as an airway to the permanent fan.

No. 5 shaft, located about 730 feet northerly from No. 4, is being sunk to develop the upper seams in the north basin, independent of the main No. 4 shaft; about 40 feet has been sunk. It is 22x15 feet 2 inches inside the concrete coping, providing for two hoistways and a pump and manway; a wooden head frame 42 feet 2 inches high has been erected, with two 14-foot sheaves and permanent hoisting engines, 20x36 inches, geared 3½ to 1, to 12 foot drum, with engine house.

The steam for this plant is furnished at present by two 250 horse-power Babcock & Wilcox boilers, the boiler house being located about 190 feet northeasterly from No. 4 shaft. There have also been built two blocks of miners' dwellings and a foreman's house, with sewerage, and water pipes have been extended from the Nanticoke Water Company's main, throughout the plant.

The improvements made at Nanticoke consist of four additional pumps put in No. 4 slope to control the water from the cave of April 13, and a new Peanesville pump 30x12x36 put in the Forge seam,

No. 1 shaft, to take the place of the Hillman seam pump, which has been moved to the Lee seam, obviating the necessity of hoisting the No. 1 shaft water by tanks suspended under the cages.

A new washery was built during the strike to supply boiler coal from the old No. 1 breaker bank; this is located near the old No. 1 slope.

There have been driven ten minor rock tunnels for ventilation and second opening and six planes extended, two of them in rock, as well as a shaft sunk 102 feet from the Hillman toward the Forge seam, in No. 4 slope; the total depth of this will be about 175 feet, making second opening from the No. 4 slope, Forge seam, workings.

At No. 6 colliery extensive retimbering has been done, but no new work of importance.

Delaware, Lackawanna and Western Company, 1899.

Woodward Colliery.—Slope in Cooper seam, 7x14 feet, 300 feet long; not completed. Slope in Ross seam, 7x14 feet, 600 feet long; not completed. Engine plane in Bennett seam 7x14 feet, 3,000 feet long. One electric hoist for plane, 80 horse power.

Bliss Colliery.—One shaft for second opening to the Hillman seam; size, 5x6 feet, and 45 feet depth. Tunnel from Baltimore to Hillman, 7x12 feet and 290 feet in length. Slope in Baltimore seam, 7x12 feet, 1,500 feet long; not completed. Slope in Ross seam, 7x20 feet, 1,000 feet long; not completed. Tunnel Forge seam to Red Ash, 7x16 feet, 125 feet long; not completed.

West End Coal Company, 1899.

Outside.—Five-foot high pressure return tubular boilers; three at boiler plant, on top of hill, and two at long drift boiler plant. One 6-inch steam line from long drift boilers to bore hole near barns. One 5-inch steam line from boilers on top of hill to old airshaft and down through bore hole to head of slope. One bore hole for 6-inch steam line near barns and bore hole for water column near same place. One bore hole for rope, from surface to head of Sand drift slope, and engine and engine house placed on surface for same. Removed fan from old Conyngham drift and placed it at mouth of old Black Creek tunnel.

Inside.—Rock tunnel driven from bottom split, Red Ash, to top split, a distance of 310 feet. Rock plane driven from second lift, Baltimore slope, to top split, a distance of 246 feet. Gravity plane in "Klondyke," about 200 feet long.

Parrish Coal Company, 1899.

During the year 1899 the following improvements were made by the Parrish Coal Company:

At the Buttonwood colliery three return tubular boilers, made by the Philadelphia Iron Works, 6 feet in diameter and 18 feet long, having 150 horse power each; an additional 20-foot fan, operated by a 16x24-inch engine, and a Vulcan duplex air compressor, 20x30 inches, with a 20 inch air chamber, have been put in place and are now in operation.

A plane has been driven in the Hillman vein 1,000 feet long, and is being operated by a pair of 14x24-inch engines, run by compressed air.

The No. 3 plane has been extended 1,000 feet, and a pair of 12x24-inch engines placed to run it.

A large part of the gangways and airways have been enlarged and retimbered, and the Kidney plane has been enlarged and retimbered. This, in connection with the new fan, has increased the ventilation a great deal.

At the Plymouth colliery, three return tubular boilers, similar to those at Buttonwood, have been put in place, and are now in operation.

An air shaft 42 feet deep has been sunk to the Baltimore vein, and an additional 20-foot fan having been put in operation, and the slope airways having been enlarged, the ventilation has been greatly increased.

A bore hole has been put down to the Baltimore vein and steam pipes put in, thus carrying the steam directly to the pumps.

A tunnel 250 feet long has been driven from the Baltimore vein to the Five Foot vein, and another tunnel, 350 feet long, has been driven from the Five Foot vein through an overlap to the Cooper vein.

TABLE I—Showing Names of Operators, etc., etc., and Location of Collieries in the Fourth Anthracite District for 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Hollenback,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
Empire,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
No. 3, South Wilkes-Barre,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
No. 5, South Wilkes-Barre,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
Stanton,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
Maxwell,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
No. 9 Sugar Notch,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
Lance No. 11,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
Nottingham,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
Reynolds No. 16,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
Wanamie No. 18,	Luzerne,	Lehigh and Wilkes-Barre Coal Company,	W. J. Richards,	Wilkes-Barre, Pa.
Wanamie No. 19,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Baltimore No. 2,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Baltimore No. 3,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Baltimore No. 4,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Conyngham No. 1,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Conyngham No. 2,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Boston,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Plymouth Mountain,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Plymouth No. 1,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Plymouth No. 2,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Plymouth No. 3,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Plymouth No. 4,	Luzerne,	Delaware and Hudson Canal Company,	C. C. Rose,	Scranton, Pa.
Plymouth No. 5,	Luzerne,	Susquehanna Coal Company,	Morris Williams, Mgr.,	Wilkes-Barre, Pa.
Shaft No. 1, George seam,	Luzerne,	Susquehanna Coal Company,	Morris Williams, Mgr.,	Wilkes-Barre, Pa.
Shaft No. 1, Forge seam,	Luzerne,	Susquehanna Coal Company,	Morris Williams, Mgr.,	Wilkes-Barre, Pa.
Shaft No. 1, Lee seam,	Luzerne,	Susquehanna Coal Company,	Morris Williams, Mgr.,	Wilkes-Barre, Pa.
Shaft No. 2,	Luzerne,	Susquehanna Coal Company,	Morris Williams, Mgr.,	Wilkes-Barre, Pa.
Shaft No. 4,	Luzerne,	Susquehanna Coal Company,	Morris Williams, Mgr.,	Wilkes-Barre, Pa.
Shaft No. 6,	Luzerne,	Susquehanna Coal Company,	Morris Williams, Mgr.,	Wilkes-Barre, Pa.
Slope No. 6,	Luzerne,	Susquehanna Coal Company,	Morris Williams, Mgr.,	Wilkes-Barre, Pa.
Tunnel No. 6,	Luzerne,	Kingston Coal Company,	Daniel Edwards,	Kingston, Pa.
Shaft No. 1,	Luzerne,	Kingston Coal Company,	Daniel Edwards,	Kingston, Pa.
Shaft No. 4,	Luzerne,	Kingston Coal Company,	Daniel Edwards,	Kingston, Pa.
Shaft No. 2,	Luzerne,	Kingston Coal Company,	Daniel Edwards,	Kingston, Pa.
Shaft No. 3,	Luzerne,	Kingston Coal Company,	Daniel Edwards,	Kingston, Pa.
Gaylord,	Luzerne,	Delaware, Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Avondale,	Luzerne,	Delaware, Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
East Woodward No. 1,	Luzerne,	Delaware, Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
West Woodward No. 1,	Luzerne,	Delaware, Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Woodward No. 2,	Luzerne,	Delaware, Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Bliss,	Luzerne,	Delaware, Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Hanover tunnel,	Luzerne,	Delaware, Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Auchincloss Nos. 1 and 2,	Luzerne,	Delaware, Lacka. and Western R. R. Co.,	E. E. Loomis,	Scranton, Pa.
Dorrance, East,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.

TABLE I—Continued.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Dorrance, West,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Franklin,	Luzerne,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
No. 1 Red Ash,	Luzerne,	Red Ash Coal Company,	M. B. Williams,	Wilkes-Barre, Pa.
No. 2 Red Ash,	Luzerne,	Red Ash Coal Company,	M. B. Williams,	Wilkes-Barre, Pa.
Parrish,	Luzerne,	Parrish Coal Company,	H. H. Ashley,	Wilkes-Barre, Pa.
Buttonwood,	Luzerne,	Parrish Coal Company,	H. H. Ashley,	Wilkes-Barre, Pa.
Alden,	Luzerne,	Alden Coal Company,	K. M. Smith,	Alden Station, Pa.
West End,	Luzerne,	West End Coal Company,		Shickshinny, Pa.
Warrior Run,	Luzerne,	Warrior Run Mining Company,	G. Kidder Davis,	Wilkes-Barre, Pa.
Hadleigh,	Luzerne,	Crescent Coal Mining Company,		Wilkes-Barre, Pa.
Hillman vein,	Luzerne,	Hillman Vein Coal Company,		Wilkes-Barre, Pa.
Lee,	Luzerne,	Melville Coal Company,	J. S. McAnulty, Treasurer,	Scranton, Pa.
Dodson,	Luzerne,	Plymouth Coal Company,	James B. Davies,	Plymouth, Pa.
Chauncey,	Luzerne,	George W. Milnes,	George W. Milnes,	Chauncey, Pa.
Washeries.				
Columbia Coal Company,	Luzerne,	Columbia Coal Company,	F. B. Durand,	Shickshinny, Pa.
Sugar Notch washery,	Luzerne,	North American Coal Company,	A. R. Anthony,	Wilkes-Barre, Pa.
Sterling Coal Company,	Luzerne,	Sterling Coal Company,	L. S. Waters,	Plymouth, Pa.

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Hollenback,	M. R. Morgans, inside superintendent; W. H. Herring, outside superintendent.	Wilkes-Barre, Pa.,	Chas. F. Huber, mining engineer; John F. Jones, assistant inside supt.; H. W. Saums, asst. outside supt.	Rees W. Morgan,	William Gibson.
Empire,	do do.	Wilkes-Barre, Pa.,	do do.	Richard Lloyd,	Rosser Boddycomb.
No. 3, South Wilkes-Barre,	do do.	Wilkes-Barre, Pa.,	do do.	William T. Evans,	C. L. Peck.
No. 5, South Wilkes-Barre,	do do.	Wilkes-Barre, Pa.,	do do.	William T. Evans,	C. L. Peck.
Stanton,	do do.	Wilkes-Barre, Pa.,	do do.	William M. Thomas,	T. B. Robinson.
Maxwell,	do do.	Wilkes-Barre, Pa.,	do do.	Samuel R Morgan,	D. C. Tiffany.
No. 9 Sugar Notch,	do do.	Wilkes-Barre, Pa.,	do do.	Lewis J. Davies,	M. J. Flaherty.
Lance No. 11,	do do.	Wilkes-Barre, Pa.,	do do.	William E. Jones,	Dennis Moore.
Nottingham,	do do.	Wilkes-Barre, Pa.,	do do.	James D. James,	Geo. R. Connor.
Reynolds No. 16,	do do.	Wilkes-Barre, Pa.,	do do.	James Rowe,	R. A. Reed.
Wanamie No. 18,	do do.	Wilkes-Barre, Pa.,	do do.	Henry N. Martin,	T. C. Carr.
Wanamie No. 19,	do do.	Wilkes-Barre, Pa.,	do do.	Henry N. Martin,	T. C. Carr.
Baltimore No. 2,	E. R. Pettibone, engineer of mines.	Scranton, Pa.,	John B. Davies,	John Mathews,	Daniel Smith.
Baltimore No. 3,	do do.	Scranton, Pa.,	John B. Davies,	William Armstrong,	Edward Mackin.
Baltimore No. 4,	do do.	Scranton, Pa.,	John B. Davies,	John C. Williams,	Daniel Smith.
Conynghani No. 1,	do do.	Scranton, Pa.,	John B. Davies,	William N. Thomas,	John Bowers.
Conynghani No. 2,	do do.	Scranton, Pa.,	John B. Davies,	William N. Thomas,	John Bowers.
Boston,	do do.	Scranton, Pa.,	Thomas Stoneham,	Gwilym P. Evans,	James Vandling.
Plymouth Mountain,	do do.	Scranton, Pa.,	Thomas Stoneham,	David Phillips,	James Vandling.
Plymouth No. 1,	do do.	Scranton, Pa.,	Thomas Stoneham,	E. H. Reese,	E. D. Peckins.
Plymouth No. 2,	do do.	Scranton, Pa.,	Thomas Stoneham,	E. H. Reese,	E. D. Peckins.
Plymouth No. 3,	do do.	Scranton, Pa.,	Thomas Stoneham,	Fred. Badman,	Oscar W. Schnell.
Plymouth No. 4,	do do.	Scranton, Pa.,	Thomas Stoneham,	Thomas C. Gilson,	John Dooley.
Plymouth No. 5,	do do.	Scranton, Pa.,	Thomas Stoneham,	Harry D. Hughes,	James Becker.
Shaft No. 1, George seam,	John H. Tonkin,	Nanticoke, Pa.,	Eugene A. Rhoads and John T. Thomas.	Lewis Morgan,	Peter Sorenson.
Shaft No. 1, Forge seam,	John H. Tonkin,	Nanticoke, Pa.,	do do.	Lewis Morgan,	Peter Sorenson.
Shaft No. 1, Lee seam,	John H. Tonkin,	Nanticoke, Pa.,	do do.	David R. Jones,	Peter Sorenson.
Shaft No. 2,	John H. Tonkin,	Nanticoke, Pa.,	do do.	Patrick F. Murray,	Owen Cooney.
Shaft No. 4,	John H. Tonkin,	Nanticoke, Pa.,	do do.	John S. Lee,	Owen Cooney.
Shaft No. 6,	John H. Tonkin,	Nanticoke, Pa.,	do do.	John J. Thomas,	Daniel Dorris.
Slope No. 6,	John H. Tonkin,	Nanticoke, Pa.,	do do.	Thomas R. Williams,	Daniel Dorris.
Tunnel No. 6,	John H. Tonkin,	Nanticoke, Pa.,	do do.	Worthy Carver,	Daniel Dorris.
Shaft No. 1,	Morgan D. Rosser,	Kingston, Pa.,		William Pugh,	Thomas J. Morgan.
Shaft No. 4,	Morgan D. Rosser,	Kingston, Pa.,		John Armstrong,	Thomas J. Morgan.
Shaft No. 2,	Gwilym Edwards,	Edwardsdale, Pa.,		[John D. Williams, Mordecai Dando]	William Cook.
Shaft No. 3,	Gwilym Edwards,	Edwardsdale, Pa.,		Richard B. Watkins,	George W. Edwards.
Gaylord,	Gwilym Edwards,	Edwardsdale, Pa.,		David Morris,	William J. Edwards.
Avondale,	Montrose Barnard,	Wilkes-Barre, Pa.,		Morgan V. Lewis,	Edward Barber.
East Woodward No. 1,	Montrose Barnard,	Wilkes-Barre, Pa.,		Richard Evans,	George H. Montgomery.
West Woodward No. 1,	Montrose Barnard,	Wilkes-Barre, Pa.,		James B. Lewis,	George H. Montgomery.
Woodward No. 2,	Montrose Barnard,	Wilkes-Barre, Pa.,		Ebenezer Lloyd,	George H. Montgomery.
Bliss,	Montrose Barnard,	Wilkes-Barre, Pa.,		John T. Evans,	Thomas H. Carey.
Hanover tunnel,	Montrose Barnard,	Wilkes-Barre, Pa.,		John T. Evans,	Thomas H. Carey.
Auchincloss Nos. 1 and 2,	Montrose Barnard,	Wilkes-Barre, Pa.,		John T. Evans,	Thomas H. Carey.

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Dorrance, East,	Eli T. Conner,	Wilkes-Barre, Pa.,	Robert Shoemaker,	Hiram Smith,	John Massman.
Dorrance, West,	Eli T. Conner,	Wilkes-Barre, Pa.,	Joseph J. Jones,	Thomas H. Price,	
Franklin,	Eli T. Conner,	Wilkes-Barre, Pa.,		Llewelyn Price,	Daniel H. Levan.
No. 1 Red Ash,	Edward Smith,	Wilkes-Barre, Pa.,		Daniel J. James,	John Herriotts.
No. 2 Red Ash,				Timothy Theophilus,	John Herriotts.
Parrish,	William T. Smith,			John Maxwell,	Thomas H. Owens.
Buttonwood,	William T. Smith,			Stephen M. Roberts,	Merritt Frederick.
Alden,				James M. Turner,	William Ohl.
West End,	David R. Roberts,	Shickshinny, Pa.,		Jonathan Weir,	James McGarry.
Warrior Run,				Williams S. Williams,	Thomas R. Jones.
Hadleigh,	Stephen Johns,	Ashley, Pa.,		Stephen Johns,	Elijah Vandermark.
Hillman vein,	Samuel J. Tonkin,	Wilkes-Barre, Pa.,		William May,	Stanley J. Tonkin.
Lee,				W. H. Hoskins, Jr.,	C. H. Sutton.
Dodson,				Daniel R. Davis,	J. C. Young.
Chauncey,				Thomas W. Morgan,	A. L. Reed.
Washeries.					
Columbia Coal Company,					
Sugar Notch washery,	James T. Sharkey,	West Pittston, Pa.,			John Hewett.
Sterling Coal Company,	L. S. Waters,				L. F. Nolan

TABLE II—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Fourth Anthracite District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Lehigh and Wilkes-Barre Coal Co.												
Hollenback No. 2,	Luzerne,	187,758.15	19,092	16,630.10	223,481.05	161.60	573	2	4	5,758	18,200	68
Empire No. 4,	Luzerne,	.....	.....	.....	.....	.....	24	.....	.....	87	250	1
South Wilkes-Barre Nos. 3 and 5,	Luzerne,	324,972.19	23,619	42,266.15	390,858.14	157.50	724	2	7	5,193	64,850	63
Stanton No. 7,	Luzerne,	191,023.13	26,220	6,889.40	224,132.13	139.75	704	1	8	5,349	8,810	90
Maxwell No. 29,	Luzerne,	249,942.12	20,028	7,728.10	277,669.02	147.50	662	4	13	6,512	37,409	59
Sugar Notch No. 9,	Luzerne,	183,840.15	12,552	1,747.00	198,139.15	151.10	532	1	4	5,271	1,049	62
Lance No. 11,	Luzerne,	177,401.14	18,926	2,574.10	198,912.04	140.30	547	2	8	5,176	15,805	67
Nottingham No. 15,	Luzerne,	472,274.05	28,464	6,268.10	506,906.15	184.30	895	2	15	9,540	8,057	113
Reynolds No. 16,	Luzerne,	201,463.16	9,936	.....	211,399.16	159.00	478	.....	1	4,469	62	74
Wanamie Nos. 18 and 19,	Luzerne,	220,675.04	17,316	2,329.10	240,320.14	159.60	560	3	3	3,451	22,350	85
Jersey Annex,	Luzerne,	5,005.19	2,400	.....	7,405.19	19.80	22	.....	.....	.....	.....	.....
Totals,		2,214,329.12	178,563	86,334.05	2,479,226.17	*155.63	5,721	17	63	50,806	186,842	685
Delaware and Hudson Canal Co.												
Baltimore shafts Nos. 2 and 4,	Luzerne,	202,771.18	23,679	2,090.17	228,541.15	171.25	618	3	3	7,702	3,337.5	74
Baltimore shaft No. 3,	Luzerne,	119,058.19	18,511	2,269.00	139,838.19	155.25	438	2	2	4,292	149	54
Conyngham Nos. 1 and 2,	Luzerne,	21,229.16	19,331	590.14	44,151.10	48.00	293	2	1	1,012	4,408	25
Boston,	Luzerne,	187,678.02	13,125	.....	200,803.02	198.00	396	1	.....	4,820	179	46
Plymouth Mountain,†	Luzerne,	.....	.....	.....	.....	.....	34	1	.....	203	.....	4
No. 2 Plymouth,	Luzerne,	149,568.04	27,511	70.00	177,149.04	189.50	501	.....	3	6,867	1,702	53
No. 3 Plymouth,	Luzerne,	192,404.19	16,825	3,342.00	212,571.19	146.75	521	.....	2	7,399	.....	58
No. 4 Plymouth,	Luzerne,	61,015.12	8,446	.....	69,461.12	71.00	286	.....	3	1,777	130	51
No. 5 Plymouth,	Luzerne,	323,950.15	25,372	5,725.15	355,048.10	235.00	554	5	3	7,445	337	69
Totals,		1,260,678.05	152,800	14,088.06	1,427,566.11	*165.75	3,661	14	19	44,407	10,242.5	454

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Susquehanna Coal Co.												
Breaker No. 5 Shaft No. 2 Slope No. 4.	Luzerne,	140,681.15	37,279	11,690.15	189,651.10	98.25	1,132	1	4	3,158	19,060	159
Breaker No. 6 Shaft No. 6.	Luzerne,								1			
Breaker No. 6 Slope No. 6.	Luzerne,	227,921.02	39,674	2,394	269,899.02	115.15	990	[illegible]	1	4,475	.....	105
Breaker No. 6 Tunnel No. 6.	Luzerne,							[illegible]	[illegible]			
Breaker No. 7 Shaft No. 1.	Luzerne,	265,323.00	20,963	.....	235,286 00	103.85	1,415	2	7	6,492	17,490	173
Totals.		573,925.17	106,916	13,994.15	694,836.12	*105.75	3,597	7	15	14,125	36,550	437
Kingston Coal Co.												
Breaker No. 2 Shafts Nos. 2 and 3.	Luzerne,	429,048.03	17,280	18,548.07	464,876.10	231.50	1,089	7	12	13,3 9	1,050	124
Breaker No. 4 Shafts Nos. 1 and 4.	Luzerne,	365,347.18	35,280	.....	400,627.18	210.50	936	7	16	10,186	5,425	119
Gaylord.	Luzerne,	99,747.12	7,440	3,148.10	110,336.02	148.60	317	.....	.....	4,016	362	40
Totals.		894,143.13	60,000	21,696.17	975,840.10	*196.86	2,342	14	28	27,511	6,837	283
Delaware, Lacka. and Western R. R. Co.												
Avondale.	Luzerne,	136,028.01	32,400	1,066.00	169,494.01	191.30	473	3	3	4,290	500	69
Woodward shafts Nos. 1 and 2.	Luzerne,	346,692.01	25,200	2,781.05	374,673.06	207.10	920	3	12	9,357	6,835	95
Bliss and Esby tunnel.	Luzerne,	253,922.05	24,876	5,750.19	284,549.04	162.85	797	4	3	7,109	8,204	67
Auchincloss Nos. 1 and 2.	Luzerne,	1,845.11	.....	.....	1,845.11	91.00	40	.....	.....	58	966	4
Totals.		738,487.18	82,476	9,598.09	830,562.02	*187.08	2,230	10	18	20,814	16,505	235
Lehigh Valley Coal Co.												
Dorrance	Luzerne,	189,587.19	8,297.02	41,012.17	238,837.18	155.85	551	3	1	5,471	9,416	70
Franklin.	Luzerne,	110,767.14	10,930.10	3,569.16	125,268.00	104.80	387	1	1	3,709	1,021	75
Totals.		300,355.13	19,167.12	44,582.13	364,105.18	*130.32	938	4	2	9,180	10,437	145

Red Ash Coal Co.													
No. 1 Red Ash,	Luzerne,	40,624.02	7,500	.....	48,124.02	1.95	126	1	1	1,246	1,400	13
No. 2 Red Ash,	Luzerne,	162,212.00	3,300	3,040.00	168,552.00	212.95	366	1	6	5,528	850	36
Totals,		202,836.02	10,800	3,040.00	216,676.02	*212.95	502	2	7	6,774	2,250	49
Parrish Coal Co.													
Plymouth (Parrish),	Luzerne,	215,245.15	12,600	8,250.05	236,096.00	219.35	596	3	6	7,223	20,750	65
Buttonwood,	Luzerne,	313,061.14	12,600	3,821.00	329,482.14	216.79	724	6	8	9,206	21,750	60
Totals,		528,307.09	25,200	12,071.05	565,578.14	*218.02	1,320	9	14	16,429	42,500	125
Miscellaneous Coal Companies.													
Alden Coal Co.													
Shafts Nos. 1 and 2,	Luzerne,	222,986.00	10,000	7,023.14	240,009.14	197.50	785	2	5	4,906	41,385	91
West End Coal Co.													
West End,	Luzerne,	172,569.60	26,160	8,098.00	206,827.00	181.45	530	1	2	3,946	28,450	63
Warrior Run Coal Co.													
Warrior Run,	Luzerne,	158,224.15	15,860	1,774.00	175,778.15	159.95	387	.....	1	3,577	3,000	27
Crescent Coal Mining Co.													
Hadleigh,	Luzerne,	64,820.09	10,950	640.00	76,410.09	110.00	252	.....	1	2,272	170	21
Hillman Vein Coal Co.													
Hillman Vein,	Luzerne,	40,621.02	10,220	11,662.00	62,503.02	120.75	232	.....	6	1,720	300	22
Melville Coal Co.													
Lee,	Luzerne,	102,966.11	12,775	569.00	116,310.11	179.40	460	1	5	4,124	3,600	26
Plymouth Coal Co.													
Dodson,	Luzerne,	113,419.13	10,000	3,424	126,843.13	119.25	471	.....	2	3,145	200	41
George W. Milnes.													
Chauncey,	Luzerne,	37,640.00	7,300	1,260	46,200.00	92.65	183	.....	.....	1,473	3,600	32
Totals, miscellaneous coal cos.,	Luzerne,	913,247.10	103,205	34,430.14	1,050,883.04	*145.12	3,300	4	22	25,163	80,705	323
Washeries.													
Columbia Coal Co.,	Luzerne,	4,298.10	.....	266.11	4,565.01	71.80	11	.....	.....	.....	.....	.....
North American Coal Co.,	Luzerne,	22,310.15	.....	.....	22,310.15	91.10	23	.....	.....	.....	.....	.....
Sterling Coal Co.,	Luzerne,	14,610.00	1,200	190.00	16,000.00	91.00	23	.....	.....	.....	.....	.....
Totals,		41,219.05	1,200	456.11	42,875.16	*84.60	57	.....	.....	.....	.....	.....

Recapitulation.

Name of Colliery	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Lehigh and Wilkes-Barre Coal Co.,	2,214,329.12	178,563	86,334.05	2,479,226.17	155.63	5,721	17	63	59,896	186,842	685
Delaware and Hudson Canal Co.,	1,260,678.05	152,800	14,088.06	1,427,566.11	165.75	3,661	14	19	44,407	16,242.5	454
Susquehanna Coal Co.,	573,925.17	106,916	13,994.15	694,836.12	165.75	3,597	7	15	14,125	26,550	437
Kingston Coal Co.,	894,143.13	60,000	21,696.17	975,840.10	196.86	2,342	14	28	27,511	6,807	283
Delaware, Lackawanna and Western Railroad Co.,	738,487.18	82,476	9.5 8.04	820,562.02	187.08	2,230	10	18	20,814	16,505	235
Lehigh Valley Coal Co.,	300,355.13	19,167.12	44,582.13	364,105.18	130.22	938	4	[illegible]	9,180	10,437	145
Red Ash Coal Co.,	202,836.02	10,800	3,146.00	216,676.02	212.95	502	2	[illegible]	6,774	2,250	49
Parrish Coal Co.,	528,307.09	25,200	12,071.05	565,578.14	218.02	1,320	9	14	16,429	12,500	125
Miscellaneous coal companies,	903,247.19	103,205	34,430.14	1,050,882.04	145.12	3,350	4	22	25,163	80,705	323
Washeries,	44,219.05	1,200	456.11	42,875.16	84.60	57	.....	.....	.....	.....	.....
Grand totals,	7,667,731.04	740,327.12	240,293.10	8,648,152.06	*168.61	23,668	81	188	215,209	392,868.5	2,736

*Averages.

Prepared at Boston breaker and included therein.

There were 20,000 pounds of dynamite used by the Lehigh and Wilkes-Barre Coal Company not included in the above statement.

There were two non-fatal accidents in mines not producing coal, making the total non-fatal accidents 190.

TABLE II—Continued.

Name of Colliery.		Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
Lehigh and Wilkes-Barre Coal Co.																
Hollenback No. 2,	Luzerne,	33	1,691	.....	.....	1,691	.....	.....	.....	16	928	1	800	581	.....	.....
Empire No. 4,	Luzerne,	12	404	.....	.....	404	.....	.....	.....	9	660	1	968	366	.....	.....
South Wilkes-Barre Nos. 3 and 5,	Luzerne,	4	236	10	1,732	1,968	1	.....	.....	28	2,785	1	648	400	.....	2
Stanton No. 7,	Luzerne,	43	1,941	2	244	2,185	1	.....	.....	18	2,181	1	1,152	505	.....	.....
Maxwell No. 20,	Luzerne,	12	435	5	1,234	1,669	1	.....	.....	17	2,188	5	4,256	2,000	.....	.....
Sugar Notch No. 9,	Luzerne,	21	1,046	.....	.....	1,046	1	.....	.....	9	864	2	1,888	944	.....	.....
Lance No. 11,	Luzerne,	18	1,090	4	488	1,578	.....	.....	.....	18	1,074	1	800	400	.....	.....
Nottingham No. 15,	Luzerne,	.....	.....	7	2,372	2,372	2	.....	.....	26	2,706	3	5,536	2,768	.....	4
Reynolds No. 16,	Luzerne,	8	528	2	360	828	1	.....	.....	11	624	1	512	.....	.....	.....
Wanamie Nos. 18 and 19,	Luzerne,	30	1,193	2	250	1,443	2	.....	.....	14	1,265	5	3,256	1,085	.....	.....
Jersey Annex,	Luzerne,	2	100	1	100	200	.....	.....	.....	1	40	.....	.....	.....	.....	.....
Totals,		183	8,664	33	6,720	15,384	9	.....	.....	167	15,325	21	19,816	9,049	.....	6
Delaware and Hudson Canal Co.																
Baltimore shafts Nos. 2 and 4,	Luzerne,	18	540	3	450	990	2	.....	.....	30	4,156	2	892	520	.....	1
Baltimore Shaft No. 3,	Luzerne,	27	810	.....	.....	810	.....	.....	.....	17	1,655	1	240	120	.....	.....
Conyngham Nos. 1 and 2,	Luzerne,	34	1,120	.....	.....	1,120	.....	.....	.....	18	2,715	2	1,000	525	.....	1
Boston,	Luzerne,	21	630	.....	.....	630	.....	.....	.....	13	1,945	2	560	320	.....	.....
Plymouth Mountain,*	Luzerne,	.....	.....	1	150	150	1	.....	.....	1	.....	.....	.....	.....	.....	.....
No. 2 Plymouth,	Luzerne,	18	540	4	1,000	1,540	.....	.....	.....	15	1,870	4	1,680	1,100	.....	.....
No. 3 Plymouth,	Luzerne,	27	810	.....	.....	810	.....	.....	.....	14	2,535	1	800	500	.....	.....
No. 4 Plymouth,	Luzerne,	18	540	.....	.....	540	.....	.....	.....	11	2,095	2	640	425	.....	.....
No. 5 Plymouth,	Luzerne,	33	990	.....	.....	990	.....	.....	.....	11	1,410	1	3,000	750	.....	.....
Totals,		196	5,980	8	1,600	7,580	3	.....	.....	130	18,381	15	8,812	4,260	.....	2

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
Susquehanna Coal Co.																
Breaker No. 5 Shaft No. 2 and Slope No. 4,	Luzerne,	73	3,016	10	2,484	5,500	5	.....	.....	18	4,250	5	5,900	3,500	.....	6
Breaker No. 6 Shaft No. 6,	Luzerne,															
Breaker No. 6 Slope No. 6,	Luzerne,	66	3,400	.....	.....	3,400	4	2	.....	14	3,000	2	2,200	1,200	.....	1
Breaker No. 6 Tunnel No. 6,	Luzerne,															
Breaker No. 7 Shaft No. 1,	Luzerne,	66	3,070	8	1,780	4,850	6	.....	.....	19	3,300	5	4,400	1,800	.....	.....
Totals,		205	9,486	18	4,264	13,750	15	2	.....	51	10,550	12	12,500	6,500	.....	7
Kingston Coal Co.																
Breaker No. 2 Shafts Nos. 2 and 3,	Luzerne,	43	1,290	1	150	1,440	3	.....	.....	16	1,780	1	800	400	.....	.....
Breaker No. 4 Shafts Nos. 1 and 4,	Luzerne,	58	1,740	8	1,200	2,940	.....	.....	.....	11	1,800	4	4,900	605	.....	2
Gaylord,	Luzerne,	31	620	.....	.....	620	.....	.....	.....	8	800	1	400	250	.....	.....
Totals,		132	3,650	9	1,350	5,000	3	.....	.....	35	4,380	6	6,100	1,255	.....	2
Dela., Lacka. and West. R. R. Co.																
Avondale,	Luzerne,	31	568	13	2,000	2,568	1	.....	.....	48	3,264	7	8,368	3,060	1	1
Woodward shafts Nos. 1 and 2,	Luzerne,	36	900	10	1,140	2,040	1	.....	2	21	2,530	1	1,500	1,000	2	.....
Bliss and Esby tunnel,	Luzerne,	.....	.....	11	1,500	1,500	1	.....	.....	11	1,367	8	4,671	1,362	1	1
Auchincloss Nos. 1 and 2,	Luzerne,	.....	.....	7	875	875	.....	.....	.....	4	1,665	2	1,420	1,020	.....	1
Totals,		67	1,468	41	5,515	6,983	3	.....	2	84	8,826	18	15,959	6,442	4	3
Lehigh Valley Coal Co.																
Dorrance,	Luzerne,	18	720	4	690	1,410	2	.....	.....	15	4,400	1	440	440	.....	1
Franklin,	Luzerne,	.....	.....	8	1,200	1,200	1	.....	.....	12	1,200	2	2,500	1,500	.....	.....
Totals,		18	720	12	1,890	2,610	3	.....	.....	27	5,600	3	2,940	1,940	.....	1

Red Ash Coal Co.																	
No. 1 Red Ash,	Luzerne,	12	510	.....	.....	510	1	.....	.....	4	516	3	920	920	.....	.....
No. 2 Red Ash,	Luzerne,	8	360	.....	.....	360	1	.....	.....	5	495	.....	.....	.....	.....	.....
Totals,		20	870	.....	.....	870	2	.....	.....	9	1,011	3	920	920	.....	.....
Parrish Coal Co.																	
Plymouth (Parrish),	Luzerne,	18	600	3	450	1,050	.....	.....	.....	10	1,500	1	1,500	1,250	.....	1
Buttonwood,	Luzerne,	.....	.....	7	1,050	1,050	.....	.....	.....	11	2,600	1	300	250	.....	1
Totals,		18	600	10	1,500	2,100	.....	.....	.....	21	4,100	2	1,800	1,500	.....	2
Miscellaneous Coal Companies.																	
Alden Coal Co.																	
Shafts Nos. 1 and 2,	Luzerne,	18	720	2	350	1,070	.....	.....	.....	8	1,300	2	1,500	1,000	.....	1
West End Coal Co.																	
West End,	Luzerne,	.....	.....	10	1,200	1,200	3	.....	.....	10	755	5	3,000	3,000	.....	.....
Warrior Run Coal Co.																	
Warrior Run,	Luzerne,	21	378	4	600	978	.....	.....	.....	6	1,136	4	3,000	1,000	.....	.....
Crescent Coal Mining Co.																	
Hadleigh,	Luzerne,	6	360	2	160	520	.....	.....	.....	8	620	6	830	560	.....	.....
Hillman Vein Coal Co.																	
Hillman Vein,	Luzerne,	12	120	.....	.....	120	.....	.....	.....	9	345	2	408	244	.....	.....
Melville Coal Co.																	
Lee,	Luzerne,	12	360	3	400	760	.....	.....	.....	6	670	2	650	561	.....	.....
Plymouth Coal Co.																	
Dodson,	Luzerne,	.....	.....	12	1,500	1,500	.....	.....	.....	17	1,283	3	1,348	674	.....	.....
George W. Milnes.																	
Chauncey,	Luzerne,	.....	.....	5	370	370	.....	.....	.....	5	320	.....	.....	.....	.....	.....
Totals, miscellaneous cos., ...		69	1,938	38	4,580	6,518	3	.....	.....	69	6,423	24	10,736	7,039	.....	1
Washeries.																	
Columbia Coal Co.,	Luzerne,	.....	.....	2	180	180	.....	.....	.....	3	75	3	.....	.....	.....	.....
North American Coal Co.,	Luzerne,	.....	.....	2	180	180	.....	.....	.....	4	180	2	500	.....	.....	.....
Sterling Coal Co.,	Luzerne,	.....	.....	2	200	200	.....	.....	.....	3	83	2	360	.....	.....	.....
Totals,		.....	.....	6	560	560	.....	.....	.....	10	338	7	860	.....	.....	.....

*Averages.

†Prepared at Boston breaker and included therein.

Recapitulation.

Name of Colliery.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
	Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
Lehigh and Wilkes-Barre Coal Co.,	183	8,664	33	6,720	15,384	9	.....	.....	167	15,325	21	19,816	9,049	.....	6
Delaware and Hudson Canal Co.,	196	5,980	8	1,600	7,580	3	.....	.....	130	18,381	15	8,812	4,260	.....	.....
Susquehanna Coal Co.,	205	9,486	18	4,264	13,750	15	2	.....	51	10,550	12	12,700	6,500	.....	.....
Kingston Coal Co.,	132	3,650	9	1,350	5,000	3	.....	.....	35	4,380	6	6,100	1,255	.....	.....
Delaware, Lackawanna and Western Railroad Co.,	67	1,468	41	5,515	6,983	3	.....	2	84	8,826	18	15,959	6,442	4	3
Lehigh Valley Coal Co.,	18	720	12	1,890	2,610	3	.....	.....	27	5,600	3	2,940	1,940	.....	1
Red Ash Coal Co.,	20	870	.....	.....	870	2	.....	.....	9	1,011	3	920	920	.....	.....
Parrish Coal Co.,	18	600	10	1,500	2,100	.....	.....	.....	21	4,100	2	1,800	1,500	.....	2
Miscellaneous coal companies,	69	1,938	38	4,580	6,518	3	.....	.....	79	6,423	24	10,736	7,039	.....	1
Washeries,	.....	.....	6	560	560	.....	.....	.....	10	338	7	860	.....	.....	.....
Grand totals,	908	33,376	175	27,979	61,355	41	2	2	603	74,934	111	80,443	38,905	4	24

TABLE III—Showing the number of each class of employes at each colliery in the Fourth Anthracite District during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	Grand total inside and outside.
Lehigh and Wilkes-Barre Coal Co																
Hollenback No. 2,	1	7	192	85	44	21	54	404	1	5	9	91	3	60	169	573
Empire No. 4,	1	1	2	3	1	.....	6	14	.....	.....	7	.....	.....	3	10	24
South Wilkes-Barre Nos. 3 and 5,	1	9	173	146	40	44	96	509	1	7	23	110	4	70	215	724
Stanton No. 7,	1	7	218	134	47	35	63	505	1	5	24	92	3	74	199	704
Maxwell No. 20,	1	7	171	137	25	45	57	443	1	5	16	82	4	91	199	642
Sugar Notch No. 9,	1	4	140	99	33	25	63	365	1	5	11	88	3	59	167	532
Lance No. 11,	1	6	150	125	64	24	50	420	1	5	22	60	3	36	127	547
Nottingham No. 15,	1	10	240	180	80	72	90	673	1	7	28	163	4	79	282	895
Reynolds No. 16,	1	8	112	99	52	23	55	346	1	5	10	63	3	50	132	478
Wanamie Nos. 18 and 19,	1	4	152	72	45	28	61	363	1	6	22	90	3	75	197	560
Jersey Annex,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	10	1	8	22	22
Total,	10	58	1,550	1,080	432	257	615	4,062	10	50	174	849	31	605	1,719	5,721
Delaware and Hudson Canal Co.																
Baltimore No. 2,	1	3	59	69	32	12	36	182	1	5	13	129	1	70	199	382
Baltimore No. 4,	1	3	52	50	32	6	46	210	.....	4	10	.....	.....	12	26	236
Baltimore No. 3,	1	3	110	60	53	13	46	286	1	6	14	78	1	52	152	438
Conyngham Nos. 1 and 2,	1	3	32	40	13	9	61	159	1	5	17	74	1	36	134	293
Boston,	1	2	83	88	29	11	28	242	1	5	10	81	2	55	154	396
Plymouth Mountain,	1	.....	16	16	3	2	4	42	.....	.....	3	.....	1	8	12	54
No. 2 Plymouth,	1	2	104	111	33	9	91	351	1	5	14	81	2	47	150	501
No. 3 Plymouth,	1	2	117	102	64	13	70	369	1	7	17	89	2	36	152	521
No. 4 Plymouth,	1	.....	90	95	34	6	36	262	1	6	9	.....	.....	12	24	286
No. 5 Plymouth,	1	2	120	119	56	14	33	345	1	8	18	162	2	58	189	534
Total,	10	20	783	741	359	85	471	2,469	8	47	125	634	12	366	1,192	3,661

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Susquehanna Coal Co.																
Shaft No. 1 Breaker No. 7,	2	11	318	400	129	64	156	1,080	1	10	29	166	2	127	335	1,415
Shaft No. 2 Breaker No. 5,	2	10	163	374	87	43	147	826	1	24	41	159	2	139	366	1,192
Slope No. 4 Breaker No. 5,																
Shaft No. 6 Breaker No. 6,	3	8	250	200	101	28	104	694	1	11	22	137	1	124	296	990
Slope No. 6 Breaker No. 6,																
Tunnel No. 6 Breaker No. 6,																
Total,	7	29	731	974	317	135	407	2,600	3	45	92	462	5	390	997	3,597
Kingston Coal Co.																
Shafts Nos. 1 and 4 Breaker No. 4,	2	5	249	165	90	28	78	617	1	10	19	190	3	96	319	936
Shafts Nos. 2 and 3 Breaker No. 2,	3	1	282	215	105	70	66	732	2	19	18	241	4	83	367	1,089
Gaylord shaft and slope,	1	.....	68	29	37	11	19	165	1	3	8	87	2	51	152	317
Total,	6	6	599	409	232	89	163	1,504	4	32	45	518	9	230	838	2,342
Del., Lacka. and Western R. R. Co.																
Avondale,	1	2	105	105	32	8	91	344	1	5	11	72	1	24	129	473
Woodward Nos. 1 and 2,	3	5	198	148	74	29	161	668	1	6	26	131	3	92	252	920
Bliss shaft and Hanover tunnel,	2	3	174	174	65	12	98	528	1	1	9	160	3	92	269	797
Auchincloss Nos. 1 and 2,	1	1	6	6	1	.....	10	25	.....	1	6	.....	.....	8	15	40
Total,	7	11	483	483	172	49	360	1,565	3	16	46	363	6	231	665	2,230

Lehigh Valley Coal Co																
Dorrance	2	5	115	80	53	30	66	351	1	13	21	70	5	90	200	551
Franklin Rock and Old Slope	2	2	80	46	44	14	61	249	1	11	19	59	3	83	138	387
Total	4	7	195	126	97	44	127	600	2	24	31	100	8	173	338	938
Red Ash Coal Co.																
No. 1 Red Ash	1	.....	40	42	14	10	12	119	.....	1	6	.....	.....	10	17	136
No. 2 Red Ash	1	.....	80	70	27	10	20	208	1	8	4	79	4	62	158	366
Total	2	.....	120	112	41	20	32	327	1	9	10	79	4	72	175	502
Parrish Coal Co.																
Parrish	1	5	122	130	41	38	74	411	1	8	17	93	4	62	185	596
Buttonwood	1	5	154	169	60	53	78	520	1	6	15	116	4	62	204	724
Total	2	10	276	299	101	91	152	931	2	14	32	209	8	124	389	1,320
Miscellaneous Coal Companies.																
Alden Coal Co.																
Alden shafts Nos. 1 and 2	2	5	181	205	64	42	40	579	1	10	18	130	6	61	246	785
West End Coal Co.																
Drifts Nos. 1, 2 and 3	1	1	127	90	34	6	23	291	1	8	15	155	4	56	239	530
Warrior Run Coal Co.																
Warrior Run colliery	1	2	90	80	16	21	31	241	1	7	14	70	4	50	146	387
Crescent Coal Mining Co.																
Hadleigh colliery	1	1	40	49	18	7	12	137	1	3	13	50	3	45	115	252
Hillman Vein Coal Co.																
Hillman Vein colliery	1	2	45	45	15	20	25	173	1	2	8	40	2	26	79	252
Melville Coal Co.																
Lee colliery	1	2	110	120	28	6	35	302	1	6	10	126	1	20	158	460
Plymouth Coal Co																
Dodson colliery	1	4	90	126	63	21	40	339	1	6	15	72	3	35	132	471
George W. Milnes.																
Chauncey colliery	1	1	37	38	21	4	6	108	1	5	8	26	5	30	75	183
Totals	9	18	729	756	259	127	212	2,110	8	47	101	682	28	323	1,190	3,300
Washeries																
Columbia Coal Co.	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	1	.....	7	11	11
North American Coal Co.	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	4	1	1	16	23	23
Sterling Coal Co.	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	2	2	1	17	23	23
Totals	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	8	4	2	40	57	57

Recapitulation.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Lehigh and Wilkes-Barre Coal Co.,	10	58	1,550	1,080	432	257	615	4,002	10	50	174	849	31	605	1,719	5,721
Delaware and Hudson Canal Co.,	10	20	782	741	359	85	471	2,469	8	47	125	634	12	366	1,192	3,661
Susquehanna Coal Co.,	7	29	731	974	247	135	467	2,600	3	45	92	462	5	350	957	3,557
Kingston Coal Co.,	6	6	599	469	232	89	103	1,504	4	32	45	518	2	230	838	2,342
Del., Lacka. and Western R. R. Co.,	7	11	482	483	172	49	360	1,565	3	16	46	363	6	231	665	2,230
Lehigh Valley Coal Co.,	4	7	195	126	97	44	127	600	2	24	31	160	2	173	392	992
Red Ash Coal Co.,	2	.....	120	112	41	20	32	327	1	9	10	79	4	72	175	502
Parrish Coal Co.,	2	10	276	229	101	91	152	931	2	14	32	200	2	124	389	1,320
Miscellaneous coal companies,	9	18	729	756	279	127	242	2,110	8	47	101	683	28	323	1,190	3,300
Washeries,	.....	.....	.....	.....	.....	.....	.....	.....	3	.....	8	4	2	40	57	57
Grand totals,	57	159	5,466	4,980	2,040	897	2,539	16,198	44	284	664	3,901	113	2,554	7,560	23,668

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Lehigh and Wilkes-Barre Coal Co.													
Hollenback No. 2,	11 4	12.1	16.3	7.7	9.6	14.5	16.1	16.1	10.0	16.1	13.6	18.1	161.60
Empire No. 4,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
South Wilkes-Barre Nos. 2 and 5	11.05	11.55	15.75	9.5	10.9	13.4	14	15.1	10.8	13.85	15	16.6	157.50
Stanton No. 7,	9.95	.....	11.3	13.6	9.1	10.1	15.05	14.8	10.4	14.15	14.2	7.1	139.75
Maxwell No. 20,	13.3	8.3	.....	12.9	11.4	9.9	14.8	15.4	12.5	15.2	16.6	17.2	147.50
Sugar Notch No. 9,	11.1	11.6	17.7	10.7	9	8	5.6	15.1	11.4	16.4	17.1	17.4	151.10
Lance No. 11,	10.5	10.9	13.8	10.3	8.2	10.4	16.8	13.75	5.95	10.4	13	16.3	140.30
Nottingham No. 15,	12	13.55	18.25	11.6	11.5	13.9	18.7	17.6	11.6	18.2	17.1	20.4	184.40
Reynolds No. 16,	11.5	12	15.9	9.3	9.3	12.4	16.4	15	10.4	13.6	16	17.2	159.00
Wanamie Nos. 18 and 19,	11.5	12.2	15	6.7	8.4	12.7	15.5	15.3	10.9	17.2	16	18.2	159.60
Jersey Annex,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	10.2	9.2	12.4	9.2	8.7	10.5	13.3	13.8	9.4	12.9	13.1	14.5	155.63
Delaware and Hudson Canal Co.													
Baltimore No. 2,	16 25	14.50	16.50	12.75	10.25	12.25	13.25	15	13.75	13.75	15.50	17.50	171.25
Baltimore, No. 4,*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Baltimore No. 3,	17	12.25	16.50	12	9	5	.....	11.50	15.50	19.75	18.75	18	155.25
Conyngham Nos. 1 and 2,	2.50	2	1.25	1.25	2.50	2.50	2	4	4.75	5	4.75	15.50	48.00
Boston,	19.75	14	19	12.75	16	17.75	8.75	19	14	19	20.75	17.25	198.00
Plymouth Mountain,*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
No. 2 Plymouth,	12.50	10.25	16.25	14.50	17	15.50	16.50	18.75	16.75	18	15.75	17.75	189.50
No. 3 Plymouth,	12.50	10.75	12	10.50	12.50	13	11.75	13.50	12.50	12	12.50	12.25	146.75
No. 4 Plymouth,‡	18.75	15.25	19.25	17.75	.....	.....	.....	.....	.....	.....	.....	.....	71.00
No. 5 Plymouth,	18.75	13.75	19.25	17.75	17	15.75	23.25	22.50	23	20.75	20.25	23	235.00
Total,	14.50	11.75	15.25	12.25	12	11.75	10.75	15	14.25	15.50	15.50	17.25	165.75

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Susquehanna Coal Co.													
Shaft No. 1 Breaker No. 7.	16.1	13.9	13.95	8.3	15.1	14.65	17.7	.....	.....	.....	.....	7.15	101.85
Shaft No. 2 Breaker No. 5.	15.6	9.4	14.1	8.2	16.55	18.6	14.1	.....	.....	.....	.....	1.2	98.25
Slope No. 4 Breaker No. 5.													
Shaft No. 6 Breaker No. 6.													
Slope No. 6 Breaker No. 6.	14.9	11.9	14.2	11.1	16	16.6	17.25	3.6	.....	.....	.....	9.6	115.15
Tunnel No. 6 Breaker No. 6.													
Total.	15.53	11.73	14.08	9.20	15.88	16.61	16.35	1.20	.....	.....	.....	.....	105.75
Kingston Coal Co.													
Shafts Nos. 1 and 4 Breaker No. 4.	18	18.40	14.80	11.60	18.20	18	18.70	17.90	17.80	19.80	18.30	19	210.50
Shafts Nos. 2 and 3 Breaker No. 2.	17	18.10	17.10	13.70	17.50	20.60	22.20	19.80	19.10	24	23.40	21	231.50
Gaylord shaft and slope.	11.40	10.50	9.20	8	10.20	11.90	13.60	10.90	13.60	16.60	17.50	15.20	148.60
Total.	15.46	15.66	13.03	11.10	15.30	18.16	18.16	16.20	16.83	20.13	19.73	18.73	196.86
Dela., Lacka. and Western R. R. Co.													
Avondale.	18.8	8.7	13.8	13.6	16.4	17.5	17	12.5	16.3	19.7	19.6	17.4	191.30
Woodward Nos. 1 and 2.	17.6	16.7	17.1	16	17.7	14.4	20	16	17.2	20.7	19.8	16.0	207.10
Bliss shaft and Hanover tunnel.	.....	11	13.05	11.65	17.7	17.75	19.9	10.2	17	20.5	17.3	15.8	162.85
Auchincloss Nos. 1 and 2.§	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.	18.15	12.13	13.75	13.75	17.26	16.55	18.96	12.90	16.83	20.30	18.90	16.40	187.08

Lehigh Valley Coal Co.													
Dorrance,	15.1	12.9	9.95	5.65	11.35	14.55	11.15	13.55	15.4	16.95	14.25	15.05	155.85
Franklin Rock and Old Slope,	13.35	.....	.....	.....	.....	.....	15.7	13.7	15.6	15.8	14.4	14.35	104.80
Total,	14.22	12.9	9.95	5.65	11.35	14.55	13.47	13.62	15.50	16.37	14.32	15.00	‖130.32
Red Ash Coal Co.													
No. 1 Red Ash,**	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
No. 2 Red Ash,	14.10	12.75	16.90	13.40	17.50	21.30	21.10	21.30	16.10	19.50	20	19	212.95
Total,	14.10	12.75	16.90	13.40	17.50	21.30	21.10	21.30	16.10	19.50	20	19	212.95
Parrish Coal Co.													
Parrish,	18.60	15.50	17.60	14.35	18.85	19.95	19.15	20.30	17.50	20.30	19.65	17.60	219.35
Buttonwood,	17.35	13.75	17.10	13.65	18.35	18.85	19.70	20.05	19.20	20.80	19.75	18.15	216.70
Total,	17.97	14.62	17.35	14.00	18.60	19.40	19.42	20.17	18.35	20.55	19.70	17.87	218.02
Miscellaneous Coal Companies.													
Alden Coal Co.													
Alden shafts Nos. 1 and 2,	16.3	13	13.45	9.4	16.6	13.1	17.65	18.15	17.8	22.9	19.55	19.6	197.50
West End Coal Co.													
Drifts Nos. 1, 2 and 3,	17.1	13	14.9	10.9	13.3	13.55	16.6	13.7	16	18.6	17	16.8	181.45
Warrior Run Coal Co.													
Warrior Run colliery,	12.00	11.10	11.00	10.65	10.55	14.40	14.70	13.40	15.00	17.20	14.00	16.15	159.95
Crescent Coal Mining Co.													
Hadleigh colliery,	9.05	7.5	12.1	9.25	8.95	8.15	5.35	7.35	12.15	7.85	11.95	10.35	110.00
Hillman Vein Coal Co.													
Hillman Vein colliery,	12.65	10.4	10	9	9.55	11.8	8.7	9.5	10.25	11.5	8.2	9.1	120.65
Melville Coal Co.													
Lee colliery,	16.10	11	16.30	12.20	9.50	17.10	18.20	20.30	15.70	13.20	15	14.8	179.40
Plymouth Coal Co.													
Dodson colliery,	19.25	17.8	20.35	16.7	19.95	18.7	6.65	.....	.....	.....	.....	.....	119.40
George W. Milnes.													
Chauncey colliery,	7.10	6.50	7.80	5.30	9.45	7.30	8.65	8.25	8.00	7.00	8.95	8.35	92.65
Totals,	13.09	11.29	13.24	10.42	12.23	13.01	12.03	12.95	13.55	14.03	13.52	13.59	145.12
Washeries.													
Columbia Coal Co.,	11.30	13.30	23.30	3.30	.....	.....	.....	.....	.....	.....	12.40	8.20	71.80
North American Coal Co.,	25.00	20	25	21	.....	.....	.....	.....	.....	.....	.....	.....	91.00
Sterling Coal Co.,	.....	.....	.....	.....	.....	8.00	16.00	14.00	8.00	15.00	17.00	13.00	91.00
Totals,	18.15	16.65	24.15	12.15	.....	8.00	16.00	14.00	8.00	15.00	14.70	10.60	84.60

*Coal prepared at Baltimore No. 2 breaker.
†Prepared at Boston breaker.
‡Prepared at No. 5 breaker.
§No breaker on yet.
**Coal prepared at No. 2 breaker.
‖Average.

Recapitulation.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Lehigh and Wilkes-Barre Coal Co.,	10.20	9.20	12.40	9.20	8.70	10.50	13.30	13.80	9.40	12.90	13.10	14.50	155.63
Delaware and Hudson Canal Co.,	14.50	11.75	15.25	12.25	12.00	11.75	10.75	15.00	14.25	15.50	15.50	17.25	165.75
Susquehanna Coal Co.,	15.53	11.73	14.08	9.20	15.88	16.61	16.35	1.20	.....	.....	.....	.....	105.75
Kingston Coal Co.,	15.46	15.66	13.03	11.10	15.30	18.16	18.16	16.20	16.83	20.13	19.73	18.73	196.86
Dela., Lacka. and Western R. R. Co.,	18.15	12.13	13.75	13.75	17.26	16.55	18.96	12.90	16.83	20.20	18.90	16.40	187.08
Lehigh Valley Coal Co.,	11.22	12.90	9.95	5.65	11.35	14.55	13.47	13.62	15.50	16.37	14.32	15.00	130.32
Red Ash Coal Co.,	11.10	12.75	16.90	13.40	17.50	21.30	21.10	21.30	16.10	19.50	20.00	19.00	212.95
Parrish Coal Co.,	17.97	14.62	17.35	14.00	18.60	19.40	19.42	20.17	18.35	20.55	19.70	17.87	218.02
Miscellaneous coal companies,	13.69	11.29	13.24	10.42	12.23	13.01	12.03	12.95	13.55	14.03	13.52	13.59	145.12
Washeries,	18.15	16.65	24.15	12.15	.....	8.00	16.00	14.00	8.00	15.00	14.70	10.60	84.60
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	168.61

TABLE IV—List of fatal accidents that occurred in and about the mines of the Fourth Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 3,	John Leonard, ...	Oiler, ...	16	....	....	....	Baltimore breaker No. 3, .	Luzerne, ...	Fatally injured by a runaway culm car at foot of dirt plane on surface; driver at head failed to close the headblock: died ten hours after.
4,	Thomas H. Lewis	Miner, ...	65	W.	....	....	Shaft No. 3, Edwardsdale,	Luzerne, ...	Instantly killed by a fall of top coal at face of breast in Ross seam.
6,	Joseph Bruskie, ...	Laborer, ...	53	M.	1	6	Shaft No. 1, Nanticoke, ..	Luzerne, ...	Instantly killed by a fall of top rock in a breast on Forge seam.
9,	John Sech, ...	Laborer, ...	51	M.	1	6	Buttonwood, ...	Luzerne, ...	Instantly killed by a fall of top rock in a breast on the Kidney seam; the timber was within four feet of the face, but it was a fire-clay top.
13,	John Grulo, ...	Miner, ...	29	M.	1	1	No. 2 Red Ash Coal Co., ..	Luzerne, ...	Instantly killed by a fall of the middle rock in the Ross seam at face of a breast; the rock had a smooth surface all around and fell without previous indication.
13,	Henry Shipsie, ...	Laborer, ...	43	M.	1	1	Shaft No. 5, Plymouth, ..	Luzerne, ...	Struck on head by a small piece of coal at face of gangway in the Red Ash seam; walked home, but died from hemorrhage early the next morning.
17,	Charles Coliski, ...	Laborer, ...	35	S.	....	....	Shaft No. 5, Plymouth, ..	Luzerne, ...	Burned by an explosion of gas; died February 3. He was working with Morgan Jones, who was also burned; they were starting to open an airway 200 feet back from face of gangway, which was ventilated by brattice; a blast broke the brattice, making a short circuit for the air. They used naked lights to repair the brattice, ignited the gas that was being moved back from face of gangway and both were severely burned.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 18,	Edward Moss,	Miner,	33	M.	1	2	Buttonwood,	Luzerne,	Killed by a fall of top rock at face of breast in the Kidney seam; he was cleaning place to restand a prop which was knocked down by a blast a few minutes before.
23,	John Schulra,	Oiler,	31	M.	1	2	Buttonwood breaker,	Luzerne,	While standing at foot of hoisting tower the descending cage struck him on the head; died in two hours; had no business whatever at that place.
23,	John Wiscavitch,	Miner,	30	M.	1	2	Hollenback,	Luzerne,	Instantly killed by a blast; it exploded when he was igniting the match.
28,	Charles Rush,	Laborer,	30	S.	....	....	Shaft No. 1, Edwardsdale,	Luzerne,	Burned by an explosion of gas; three others were burned at the same time; died February 4.
Feb. 1,	John Davies,	Miner,	60	M.	1	1	Boston,	Luzerne,	Fatally injured by a fall of top coal in a breast on the Cooper seam; the laborer told him that it was cracking, but he did not heed him and worked on the bottom coal under it until it fell on him; died on reaching home.
2,	John Misko,	Miner,	31	M.	1	2	Shaft No. 4, Edwardsdale,	Luzerne,	Killed by a fall of rider coal at face of breast in Red Ash seam.
3,	George Jones,	Driver,	18	S.	....	....	Shaft No. 5, S. Wilkes-Barre.	Luzerne,	Fatally burned; his clothing took fire from his lamp; he carried a bottle full of coal oil in his pocket; the bottle broke and the oil saturated his clothes and they took fire; death ensued February 13.
7,	George Choinoski,	Miner,	35	M.	1	1	Baltimore No. 2 shaft,	Luzerne,	Fatally injured by a blast exploding before he moved after touching the match; died a few hours later.
22,	Albert B. Evans,	Door tender,	15	S.	....	....	Bliss,	Luzerne,	Was riding on front end of a loaded car coming out of a tunnel, when he fell and was crushed between the car and brattice; was on night shift; happened at 10 P. M.; died in two hours after.

	23,	Walter Branch,	Runner,	22	M.	....	....	Shaft No. 5, Plymouth, ..	Luzerne,	Was running a trip of cars down a run; the fourth car jumped track and crushed him to death against a rib.
	25,	Norbit Cosmiski,	Laborer,	29	S.	....	....	Avondale,	Luzerne,	Was riding on a loaded trip of cars up the inside slope; the rope broke and he was crushed fatally by the cars; died in two hours after; he had refused to get off for the footman.
	28,	Stanley Vilsky,	Laborer,	28	S.	....	....	Shaft No. 2, Edwardsdale,	Luzerne,	Killed by a fall of top rock in a narrow breast on the Lance seam.
Mar.	1,	Wasil Sharack,	Runner,	24	S.	....	....	Shaft No. 1, Edwardsdale,	Luzerne,	Instantly killed by an explosion of gas; David A. Thomas and Henry Evans were burned by the same explosion. The gas was unexpectedly met at head of inside slope when they were passing with naked lights.
	2,	Joseph Vitchofski,	Miner,	50	M.	1	6	Lance No. 11,	Luzerne,	Fatally injured by a fall of top in a breast on the Five-Foot seam; died on way out of the mine.
	3,	Adam Brickle,	Miner,	57	M.	1	5	Slope No. 6, Glen Lyon, ..	Luzerne,	Killed by a fall of coal at face of breast; the coal slipped off the back of a slip when he was working in a kneeling position under it.
	11,	Joseph Bolinski,	Laborer,	20	S.	....	....	Shaft No. 1, Edwardsdale,	Luzerne.	Fatally injured by a fall of top coal; he was laboring in a breast where the top coal was being drawn back; was loading a car under the edge of the top coal when a large piece fell and crushed him; he died in a few hours.
	24,	John Meyjako,	Laborer,	31	M.	1	....	Parrish,	Luzerne,	Instantly killed by a fall of top rock; while sawing a block of wood about twenty-five feet back from face, a piece of top rock fell on him.
April	3,	Daniel Williams,	Engineer,	38	M.	1	....	Bliss,	Luzerne,	Instantly killed; car turned over and crushed his head against a rib; was trying to block it to stop it from running to the slope.
	5,	James Hackett,	Company laborer,	67	M.	1	....	Shaft No. 5, Plymouth, ..	Luzerne,	Fatally burned by a explosion of gas; walked to face of an old gangway in mistake and ignited a body of gas; died the next day.
	11,	Paul Kaval,	Miner,	30	M.	1	2	Tunnel No. 6, Glen Lyon,	Luzerne,	Killed by a fall of top rock at face of counter gangway; it was a narrow, long piece of rock with thin edges; fell without previous warning.
	15,	Adam Wahohenski,	Miner,	30	M.	1	....	Shaft No. 9, Sugar Notch,	Luzerne,	Killed by a fall of top coal; was firing a blast in it and it exploded and forced coal down upon him before he got away.
	17,	Thomas Reid,	Door tender,	15	S.	....	....	Shaft No. 3, S. Wilkes-Barre.	Luzerne,	Fatally hurt; car crushed him against a prop; was sitting near prop when car jumped track; died while being taken out of the mine.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
April 24,	David J. Davies, ...	Laborer, ...	25	M.	1	1	Shaft No. 3, Edwardsdale,	Luzerne, ...	Killed by a fall of top rock at face of airway in Orchard seam.
27,	John W. Jones, ...	Miner, ...	46	M.	1	....	Woodward No. 2, ...	Luzerne, ...	Burned by an explosion of gas; he took a length of brattice out to get loose coal from behind, about thirty feet back from the face of his breast; after loading the coal he walked up to the face with his naked lamp; a body of gas having accumulated, it ignited; he died May 11.
28,	Nathan Nuss, ...	Door tender, ...	68	M.	1	5	West End sand drift, ...	Luzerne, ...	Fatally hurt; struck down by an ascending trip of cars on inside slope; was attending door on the slope and failed to open it in time.
May 2,	Herman Gilbert, ...	Laborer, ...	25	S.	....	....	Shaft No. 2, Nanticoke, ..	Luzerne, ...	Killed by a large piece of rock falling at face of breast, pitching 40 degrees. He was holding the safety lamp to show light to the miner when the rock fell.
2,	Joseph Poposki, ...	Laborer, ...	28	M.	1	1	Tunnel No. 6, Glen Lyon,	Luzerne, ...	Killed by a fall of bony coal when working a skip off a pillar in breast.
3,	Thomas Joyce, ...	Miner, ...	60	S.	....	....	Shaft No. 3, Edwardsdale,	Luzerne, ...	Killed by a fall of the middle bone in the Ross seam; he was alone, but the miner in the adjacent breast heard the fall and went at once to look for him; he was found crushed to death under a large fall of the middle bone.
4,	John Havard, ...	Company laborer,	42	M.	1	6	South Shaft No. 1, Nanticoke.	Luzerne, ...	Fatally injured; was riding, sitting on a truck coming out of the level gangway; the box on the truck caught in the car on the other track, and the lid was driven against his side; it caused his death the next day.
10,	Charles Carlson, ...	Laborer, ...	37	....	....	2	Buttonwood, ...	Luzerne, ...	Fell into the sump at bottom of the shaft and was drowned.

	15,	George Kitching,	Door tender,	14	S.	....	....	Buttonwood,	Luzerne,	Killed; was riding in the gangway in an empty car; the car jumped the track and knocked a pair of timbers out and the top fell on him.
	24,	Martin Solick,	Laborer,	28	S.	....	....	Woodward,	Luzerne,	Fatally injured; rode down a breast between runaway cars and was severely crushed; died May 26.
	26,	John Tobaugh,	Laborer,	20	S.	....	....	Alden,	Luzerne,	Fell off the cage when he and his miner were being hoisted up the shaft at about 10.30 P. M., and instantly killed.
	29,	George Speight,	Miner,	27	M.	1	1	Shaft No. 5, Plymouth,	Luzerne,	Fell off the cage when being hoisted up the shaft with nine other men and instantly killed.
June	6,	Joseph Kotchkill,	Miner,	30	M.	1	....	Buttonwood,	Luzerne,	Fatally burned by an explosion of about half a keg of powder; he was sitting at his box when he, in some manner, ignited the powder; he died that night.
	8,	John Urkins,	Miner,	29	M.	1	2	Shaft No. 3, Edwardsdale,	Luzerne,	While barring loose coal down in the bottom bench of the Ross seam a piece of the middle rock fell and drove the butt end of the drill against his abdomen; the injury proved fatal that night at the hospital.
	12,	Peter Petrofski,	Laborer,	21	S.	....	....	Slope No. 6, Glen Lyon,	Luzerne,	Went into an abandoned breast for a plank and fired a body of gas; he and the miner, Felix Machinski, were burned; Petrofski died June 14.
	19,	Andrew Matcho,	Laborer,	27	M.	1	2	Shaft No. 2, Edwardsdale,	Luzerne,	Fatally injured by a fall of rock in a breast on the Lance seam; it was a long piece of rock, with thin sides, and fell unexpectedly; he died from the injuries in a few hours.
	21,	Metlo Demsky,	Miner,	34	M.	1	5	Shaft No. 3, Edwardsdale,	Luzerne,	When walking across the face of a pitching breast a small flat piece of coal fell on him and broke his neck, killing him instantly.
	22,	Anton Maksenovitch,	Miner,	45	M.	1	1	Maxwell,	Luzerne,	Killed by after damp charging the air after an explosion of gas; he remained in his breast when all the other miners had gone out, and was found dead behind the brattice about twelve hours after the explosion; the mine was on fire.
July	6,	James E Purcell,	Miner,	56	M.	1	3	Shaft No. 1, Edwardsdale,	Luzerne,	Fatally injured by a fall of top rock; was back from the face along the rib; the seam was only four and one-half feet thick, with disintegrating top; his injuries proved fatal at 7 P. M. same evening.
	6,	John Mendell,	Laborer,	23	S.	....	....	Parrish slope,	Luzerne	Instantly killed by a fall of top rock in a breast on the Five-Foot seam.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
July 8,	Frank Sebasky,	Miner,	35	M.	1	1	Woodward No. 2,	Luzerne,	Fatally hurt; when approaching, thinking the squib had "missed," the blast fired; he was so severely injured that death occurred as soon as he was taken home.
8,	Block Tomolinus,	Laborer,	23	S.	....	....	Hollenback,	Luzerne,	Fatally injured by a fall of top coal which fell from between props on the Red Ash seam; his injuries proved fatal same evening.
13,	Charles Buchalonis,	Miner,	36	S.	....	....	Maxwell,	Luzerne,	Killed by a piece of top coal falling on him; neck was broken.
22,	Holly Walsh,	Engineer,	48	M.	1	6	Dorrance surface,	Luzerne,	Instantly killed; struck by fragments of a bursting fly-wheel; had just lowered a trip to the slope when the wheel burst and threw the pieces out through the engine house.
24,	Michael Pelevitch,	Miner,	25	M.	1	2	Shaft No. 4, Edwardsdale,	Luzerne,	Fatally burned by an explosion of gas; Walter Duncan had left a door open while unloading a rock car; gas accumulated in an idle breast. Plevitch went into the breast and fired the gas; he died from the effects July 25; Duncan was also more or less severely burned.
31,	John McGowan,	Company laborer,	52	M.	1	5	Maxwell breaker,	Luzerne,	While cleaning the track under the breaker chutes, a gondola car moved on and ran upon him, causing injuries which proved fatal the next day.
Aug. 3,	Alexander Kosciak,	Laborer,	30	M.	1	....	Bliss,	Luzerne,	Killed by a fall of top rock in a breast on Baltimore seam; it was a piece that was projecting from the left rib; they had tried to bar it down and failed.

10,	Joseph Toker, ...	Laborer, ...	34	M.	1	5	Alden No. 2 shaft, ...	Luzerne, ...	Fatally injured by a large mass of coal sliding from the upper rib; the miner, Joseph Kovatch, was told to prop and lagg the rib, but he neglected it; he also had a narrow escape; Toker died the next day.
11,	Edward Dougher, ...	Door tender, ...	17	S.	....	....	Baltimore Shaft No. 4, ...	Luzerne, ...	Went up to face of Anthony Robinson's breast to get some oil for his lamp, and just as he got there, a fall of rock caught him, causing injuries which proved fatal in a few minutes. Robinson was shouting to him to keep back when the rock fell, but he did not heed him.
17,	Peter Parah, ...	Laborer, ...	35	M.	1	....	Shaft No. 4, Edwardsdale,	Luzerne, ...	Instantly killed by a fall of top coal in the Red Ash seam; was drawing top coal back and was alone, when a piece of the edge of the coal fell on him; he was there for several hours before it was known; the miner had just gone out when it occurred.
22,	Robert Roberts, ...	Miner, ...	42	M.	1	....	Slope No. 18, Wanamie, ..	Luzerne, ...	Fatally hurt by a fall of top rock; he was taking a skip from the lower rib of the gangway, when a large fall of rock fell and caught him; his injuries proved fatal in one hour.
28,	Robert H. Pierson, ...	Slope headman, ...	25	S.	....	....	Lance No. 11, ...	Luzerne, ...	When lifting the rope on to the pulley the bar he used slipped, and the rope passed over his foot and cut a deep groove across the instep; died September 8.
30,	Humphrey Pritchard, ..	Runner, ...	26	S.	....	....	Nottingham, ...	Luzerne, ...	Attempted to board a trip of cars which were running down the slope; the car jumped the track and crushed him against a rib; his injuries proved fatal that night.
Sept. 20,	Stanley Thomas, ...	Driver, ...	17	S.	....	....	Conyngham shaft, ...	Luzerne, ...	Fell off the cage when descending the shaft and was instantly killed; he had no light, and it is supposed that he stepped off, thinking the cage was at the bottom.
27,	John Boyle, ...	Car loader, ...	19	S.	....	....	Baltimore No. 3 breaker, .	Luzerne, ...	A 40,000-ton railroad car was slowly moved down from the weighing scales and he was walking in front, and, noticing that the brake chain was loose, he went to adjust it, and was walking backwards in front of the car; his heel caught in a frog and the car instantly ran upon him; he died in twelve hours after.
29,	Thomas Timlin, ...	Laborer, ...	35	M.	1	2	Conyngham, ...	Luzerne, ...	Killed by a large fall of top coal at bottom of slope which was being sunk; George Cooper, miner, was severely injured by the same fall.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Oct. 6.	Harvey Andrews, ...	Runner, ...	24	S.	....	....	Lee, ...	Luzerne, ...	Instantly killed; cars jumped track and knocked timber out and roof fell on him; he was riding on rear of the last car.
7.	Stanley Proleyco, ...	Laborer, ...	21	S.	....	....	Plymouth Mountain, ...	Luzerne, ...	Fatally injured by a fall of top rock in a breast just being started; he died October 8.
18.	Frederick Bevan, ...	Door tender, ...	14	S.	....	....	Parrish, ...	Luzerne, ...	Appears to have fallen asleep on track; cars ran upon him, injuring him so that death ensued October 25.
23.	William Hope, ...	Door tender, ...	14	S.	....	....	Nottingham, ...	Luzerne, ...	Fatally burned by an explosion of gas; a running car brought gas down to a lamp from a cavity in the top above the timbers; Thos. D. James, Adam Jones, Peter Lebada and George Rohanski were burned at the same time; Hope died October 24.
23.	Wallace Smith, ...	Miner, ...	37	M.	1	3	Stanton, ...	Luzerne, ...	Severely burned by an explosion of gas at face of steep pitching breast; used naked light where he had been ordered not to; happened at 3.30 P. M.; he died October 25.
30.	Reuben Young, ...	Locomotive helper,	19	S.	...	....	Wanamie No. 19, surface,	Luzerne, ...	Foot crushed under locomotive; he stepped off to go ahead to fix a switch; his foot slipped and he fell; the locomotive ran upon his foot, causing such injury that death ensued November 10.
Nov. 9.	Martin Murphy, ...	Door tender, ...	15	S.	....	....	Franklin Rock slope, ...	Luzerne, ...	Attempted to get on the front end of car just as it was approaching a close pillar; his foot slipped and he was crushed to death between the car and the rib of the pillar.
10.	John Frank, ...	Laborer, ...	23	S.	...	....	Wanamie No. 18, ...	Luzerne, ...	Instantly killed by a fall of top rock about sixty feet back from the face of the gangway.

	10,	John E. Jones,	Miner,	56	M.	1	3	Avondale,	Luzerne,	Fatally injured by a fall of top bone at the face of a breast in the Ross seam; he was returning to the face after firing a blast, when the bony suddenly fell on him; died on being taken home the same day.
Dec.	2,	Thomas Freegard,	Driver,	17	S.	....	....	Avondale,	Luzerne,	Kicked by a mule when walking down the slope; died in consequence on December 3.
	7,	Andrew Choniski,	Driver,	18	S.	....	....	Baltimore No. 2 shaft,	Luzerne,	Attempted to cross the pit of the shaft, when the cage came upon and crushed him; was taken to the hospital, where he died in three hours after.
	9,	Peter Sheedock,	Miner,	38	M.	1	5	Bliss,	Luzerne,	Fatally injured by a fall of coal; he fired a blast and was in the act of barring the loosened coal down when it fell on him; died December 13.
	14,	Thomas McElligott,	Door tender,	15	S.	....	....	Maxwell No. 20,	Luzerne,	Followed the driver out to foot of slope and attempted to couple the moving cars to one standing at the foot and his head was crushed between the top rails of the cars; was instantly killed.
	15,	John McMullen,	Miner,	60	M.	1	....	Dorrance,	Luzerne,	Fatally burned; his clothing took fire from his lamp when he was walking in to work against a strong current of air; before he succeeded in extinguishing it, his body was burned so as to cause his death in a few hours after.
	22,	John Solamensen,	Miner,	45	M.	1	6	Dorrance,	Luzerne,	Instantly killed by a fall of top rock; was working in an airway on Bennett seam, when a large piece of rock having thin edges on three sides suddenly fell on him; occurred on night shift.
	26,	Edward Thomas,	Carpenter,	33	M	1	1	No. 1 Red Ash,	Luzerne,	While knocking an old brattice out in an abandoned breast on the Ross seam, a large flat piece of rock which evidently rested on the brattice, fell on him, killing him instantly.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Fourth Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 4.	A. W. Ganderman,	Tracklayer,	45	M.	West End,	Luzerne,	Leg fractured; rope slipped off a vertical pulley and struck his leg.
5.	Anthony McManaman,	Loader,	18	S.	Breaker No. 9 Sugar Notch,	Luzerne,	Hand severely bruised and finger broken; caught when coupling railroad cars.
6.	Evan C. Davies,	Brattice man,	44	M.	Stanton,	Luzerne,	Both painfully burned by an explosion of gas in an abandoned breast; they thoughtlessly walked up with naked lights and fired a body of gas; rule of mine violated.
6.	Patrick McElwee,	Brattice man,	58	M.	Stanton,	Luzerne,	
9.	John Stralotzki,	Laborer,	40	M.	S. Shaft No. 1, Nanticoke,	Luzerne,	Leg fractured; became confused and jumped into the track on turnout; cars ran upon him.
9.	Mattis Perash,	Miner,	45	M.	Shaft No. 4, Edwardsdale,	Luzerne,	Spine fractured by a fall of coal.
10.	Steve Williams,	Miner,	38	M.	Shaft No. 3, Edwardsdale,	Luzerne,	Cut severely on head and back by a fall of bone coal.
11.	Thomas Burns,	Slate picker,	16	S.	Franklin breaker,	Luzerne,	Arm fractured in two places; went on roof of breaker and fell off, a height of thirty feet.
11.	Jacob Butz,	Laborer,	22	S.	Lee,	Luzerne,	Severely cut on foot by a piece of coal falling from rib.
12.	William J. Rowland,	Company laborer,	62	M.	Nottingham,	Luzerne,	Shoulder fractured by a piece of coal falling from the rib; he was cleaning the track.
14.	Peter German,	Miner,	37	S.	Stanton,	Luzerne,	Face and hands burned by an explosion of gas; went to the breast against orders.
17.	Morgan Jones,	Miner,	34	M.	Shaft No. 5, Plymouth,	Luzerne,	Burned on face and hands by an explosion of gas through carelessness.
20.	Peter Dodson,	Miner,	48	M.	Hillman Vein,	Luzerne,	Back and leg painfully bruised; barred coal down upon himself.
21.	John Rowland,	Laborer,	42	M.	Shaft No. 1, Nanticoke,	Luzerne,	Leg fractured by a fall of top rock in Lee seam.
25.	John Hughes,	Laborer,	22	M.	Red Ash No. 2,	Luzerne,	Back and limbs injured by a fall of bone in a breast.
27.	David Rowe,	Driver,	22	S.	Hillman Vein,	Luzerne,	Squeezed about chest and shoulder; crushed between a car and rib.

	27, John Davies,	Laborer,	30	S.	Parrish,	Luzerne,	Face and hands more or less severely burned by and explosion of gas in a cavity above timber in gangway; Daniel J. Rees and Wm. Yound hands slightly burned at the same time.
	28, Peter Novish,	Miner,	35	M.	Shaft No. 1, Edwardsdale, .	Luzerne,	All more or less severely burned by an explosion of gas; compressed air was put on to move a body of gas out; they walked in with naked light against it and fired it; had been warned to keep back. Charles Rush was fatally burned at the same time.
	28, Martin Less,	Miner,	29	S.	Shaft No. 1, Edwardsdale, .	Luzerne,	
	28, Joe Savage,	Laborer,	24	S.	Shaft No. 1. Edwardsdale, .	Luzerne,	
	30, John Hannon,	Tracklayer,	33	M.	Dorrance,	Luzerne,	Face and hands burned by an explosion of gas.
Feb.	1, Adolph Granetski,	Miner,	31	M.	Buttonwood,	Luzerne,	Cut and bruised on face and head by a blast; gas ignited the squib.
	3, Jacob Long,	Laborer,	18	S.	Hollenback,	Luzerne,	Slightly hurt about hips and legs; pulled a piece of rock down upon himself.
	3, Jos. Moslefski,	Miner,	30	M.	Nottingham,	Luzerne,	Leg severely bruised by a fall of coal at face of breast.
	3, Mike Konkel,	Miner,	35	S.	Lee,	Luzerne,	Face and hands burned by an explosion of powder, through carelessness.
	4, Anthony Burofski,	Miner,	37	M.	Parrish,	Luzerne,	Face and hands burned by an explosion of gas which had accumulated on account of broken brattice.
	6, Andrew Skladnay,	Miner,	37	M.	Shaft No. 2, Plymouth,	Luzerne,	Head and back cut and bruised by a blast which fired on lighting the match.
	18, Thomas Nixon,	Miner,	30	S.	Maxwell,	Luzerne,	Fell under cars while trying to step on and painfully injured.
	18, Peter McAniny,	Laborer,	26	S.	Buttonwood,	Luzerne,	Leg fractured and cut on head by a fall of rock.
	18, David Williams,	Driver,	19	S.	Woodward,	Luzerne,	Seriously injured by a kick from a mule.
	20, Ben. Lloyd,	Runner,	19	S.	Shaft No. 1, Edwardsdale, .	Luzerne,	Painfully injured by falling under cars.
	20, Anthony Zadwiski,	Shaft sinker,	26	S.	Shaft No. 3, Plymouth,	Luzerne,	Painfully injured; struck by a piece of ice falling down from side of shaft.
	24, William Griffiths,	Laborer,	47	S.	S. Wilkes-Barre No. 5,	Luzerne,	Leg fractured by a rolling lump of coal in the chute.
	24, Charles Bellas,	Timberman,	32	S.	Shaft No. 2, Nanticoke,	Luzerne,	Hand severely cut by a piece of rock falling from the top.
	26, William Thomas,	Runner,	24	M.	Buttonwood,	Luzerne,	Painfully hurt by falling under cars.
	28, Joseph Yeskentz,	Miner,	24	S.	S. Shaft No. 1, Nanticoke,	Luzerne,	Leg fractured and internally injured by a fall of top coal.
Mar.	1, James Smith,	Loader,	23	S.	Lance No. 11, surface,	Luzerne,	Hip dislocated and body cut and bruised by runaway car on dirt plane.
	1, David A. Thomas,	Timberman,	55	M.	Shaft No. 1, Edwardsdale, .	Luzerne,	Both severely burned by an explosion of gas, while walking on gangway down the mine; Wasil Sharach was killed by the same explosion.
	1, Henry Evans,	Timberman,	26	M	Shaft No. 1, Edwardsdale, .	Luzerne,	
	2, Frank Maslofski,	Miner,	36	M.	Shaft No. 2, Nanticoke,	Luzerne,	Severely injured on head and body by a fall of top coal in Lee seam.
	2, Ashman Packmewski,	Laborer,	30	M.	S. Shaft No. 1, Nanticoke,	Luzerne,	Leg painfully injured by a fall of top slate.
	3, James O. Boyle,	Miner,	45	M.	Parrish,	Luzerne,	Leg and arm fractured by a fall of coal at face of breast.
	3, John Jones,	Miner,	45	M.	Alden,	Luzerne,	Face and hands slightly burned by an explosion of a small body of gas.
	3, Asel Sutliff,	Engineer,	30	M.	Parrish, surface,	Luzerne,	Shoulder dislocated; caught by governor belt at fan engine.

TABLE V—Continued.

Date of accident.	Name of Person	Occupation	Age.	Married or single.	...e of Colliery.	County.	Nature and Cause of Accident in Brief.
Mar. 6.	John Molesky, ...	Miner, ...	30	M.	Nottingham, ...	Luzerne, ...	Leg fractured by a fall of coal.
8.	William Amos, ...	Runner, ...	20	S.	Red Ash No. 2, ...	Luzerne, ...	Leg severely bruised by being crushed between cars.
10.	John H. Lewis, ...	Miner, ...	35	M.	Woodward, ...	Luzerne, ...	Leg fractured and severely bruised by a fall of coal.
11.	John Vikofski, ...	Miner, ...	26	M.	Tunnel No. 6, Glen Lyon, ..	Luzerne, ...	Head and shoulders severely hurt by a fall of top slate.
11.	Thomas Hopkins, ...	Miner, ...	45	M.	Woodward, ...	Luzerne, ...	Back and hips painfully bruised by a fall of coal.
11.	Martin Montague, ...	Driver, ...	26	M.	Buttonwood, ...	Luzerne, ...	Severely injured; crushed between a car and prop.
15.	Fred. Rodamacher, ...	Miner, ...	51	S.	N. Shaft No. 6, Glen Lyon,	Luzerne, ...	Eye destroyed; a piece of knot flew from the ax when making a cap-piece.
15.	Samuel Jenkins, ...	Runner, ...	22	S.	Wanamie No. 18, ...	Luzerne, ...	Collar bone fractured; car swung off track and crushed him against the rib.
17.	Wasil Petraski, ...	Miner, ...	28	M.	Alden, ...	Luzerne, ...	Both painfully bruised on hands and face, while charging a hole in rock and had a cap in; on ramming the first tamping the blast fired.
17.	John Petraski, ...	Laborer, ...	30	M.	Alden, ...	Luzerne, ...	
21.	David Williams, ...	Shaft sinker, ...	24	S.	Slope No. 4, Nanticoke, ...	Luzerne, ...	Arm fractured by a piece of rock falling from side of inside air shaft.
21.	David L. Davis, ...	Laborer, ...	15	S.	Shaft No. 1, Edwardsdale, .	Luzerne, ...	Injured by falling under an empty car.
23.	John Watkins, ...	Driver, ...	18	S.	Shaft No. 3, Edwardsdale, .	Luzerne, ...	Severely burned by an explosion of powder, while tampering with a keg containing powder.
25.	William Gilightis, ...	Laborer, ...	42	S.	S. Wilkes-Barre No. 5, ...	Luzerne, ...	Arm fractured, shoulder and arm bruised by a fall of top coal.
April 4.	Henry Davies, ...	Door tender, ...	14	S.	Red Ash No. 2, ...	Luzerne, ...	Leg fractured; foot caught between track rails, causing him to fall.
11.	Michael Cuff, ...	Miner, ...	26	S.	Maxwell, ...	Luzerne, ...	Face and hands slightly burned by a small body of gas which ignited in a cross-cut.
12.	William Sudolick, ...	Miner, ...	33	S.	Nottingham, ...	Luzerne, ...	Bruised on head and face; car jumped track and crushed him to the rib.
17.	David W. Davies	Miner, ...	42	M.	Lance No. 11, ...	Luzerne, ...	Leg severely crushed by a blast; Sterling Fitler connecting the wrong wire to a battery and fired a blast that Davies was charging, instead of his own.

	20,	David R. Davies,	Brakeman,	23	S.	Breaker No. 2, Edw'sdale,	Luzerne,	Painfully injured; squeezed between cars.
	21,	Hugh Dougherty,	Loader,	57	M.	Nottingham, surface,	Luzerne,	Shoulder dislocated and cut above the eye; fell from a railroad car.
	21,	John Shincolia,	Company laborer,	33	M.	Slope No. 4, Nanticoke,	Luzerne,	Injured on chest and cut on head; fell under a water car.
	22,	Thomas Punshon,	Driver,	16	S.	Tunnel No. 6, Glen Lyon,	Luzerne,	Arm fractured; fell when trying to walk on track rail.
	26,	John Costmak,	Laborer,	26	M.	Shaft No. 3, Edwardsdale,	Luzerne,	Thigh painfully injured by a fall of coal.
	28,	Michael Zipjack,	Driver,	15	S.	Shaft No. 2, Edwardsdale,	Luzerne,	Thigh severely lacerated by falling under a car.
May	2,	Paul Copeko,	Laborer,	50	M.	Shaft No. 4, Edwardsdale,	Luzerne,	Hip dislocated by a fall of rock.
	4,	Stanley Korsack,	Laborer,	32	M.	Dodson,	Luzerne,	Hips painfully injured by a fall of coal.
	5,	William R. Thomas,	Miner,	57	M.	Shaft No. 2, Plymouth,	Luzerne,	Thigh fractured and back painfully hurt by a fall of rock from the rib.
	8,	William J. Owens,	Runner,	22	S.	Reynolds No. 16,	Luzerne,	Small bone of leg fractured; fell under cars when running along trying to draw a sprag out.
	8,	Louis Potstochini,	Miner,	33	M.	Lee,	Luzerne,	Severe wound on scalp; caused by a fall of slate.
	9,	John Dailey,	Driver,	19	S.	Woodward,	Luzerne,	Collar bone fractured; mule struck him with his head.
	10,	Owen O. Williams,	Miner,	45	M.	Maxwell,	Luzerne,	Leg fractured by a fall of top coal.
	11,	Garfield Cosem,	Door tender,	15	S.	Buttonwood,	Luzerne,	Nose fractured and face bruised by a kick from a mule.
	12,	Charles Minick,	Loader,	20	S.	Maxwell breaker,	Luzerne,	Hand bruised while coupling cars.
	13,	David Roberts,	Shaft sinker,	44	M.	Shaft No. 4, Nanticoke,	Luzerne,	Leg fractured by a large stone turning over at bottom of shaft.
	13,	Vincent Sobrenka,	Laborer,	44	M.	Bliss,	Luzerne,	Three ribs fractured; squeezed between a car and brattice.
	19,	Wadis Lepinski,	Miner,	39	M.	S. Shaft No. 1, Nanticoke,	Luzerne,	Foot badly bruised; a piece of rock fell on edge and turned over on him.
	20,	Walter H. Paul,	Driver,	16	S.	Bliss,	Luzerne,	Shoulder dislocated and cut on cheek and hand; caught between car and rib.
	22,	Anthony Audonski,	Laborer,	23	S.	Alden,	Luzerne,	Arm broken and leg and back severely bruised by a fall of top rock.
	25,	Anthony Pashefski,	Miner,	33	M.	Nottingham,	Luzerne,	Painfully injured about the body by a fall of coal.
	29,	John Magravage,	Laborer,	30	M.	Sand drift, West End,	Luzerne,	Spinal cord severely affected by a fall of coal.
June	3,	Andy Lore,	Laborer,	24	S.	Avondale,	Luzerne,	Two fingers blown off; fired a squib in a blocked barrel and it burst.
	5,	James Gildea,	Miner,	47	M.	Maxwell,	Luzerne,	Face and hands slightly burned by gas feeders igniting in loose coal under him.
	6,	Timothy Price,	Miner,	33	M.	Shaft No. 3, Edwardsdale,	Luzerne,	Leg broken by a fall of top rock in the Orchard seam.
	7,	Henry Weichart,	Miner,	50	M.	Baltimore Shaft No. 3,	Luzerne,	Leg fractured by a fall of rider coal.
	8,	John Casper,	Miner,	32	M.	No. 9, Sugar Notch,	Luzerne,	Face, back and hands more or less seriously burned by an explosion of gas.
	12,	Peter Pochinski,	Miner,	31	S.	Shaft No. 1, Edwardsdale,	Luzerne,	Arm broken and body severely injured by a fall of rock.
	12,	Joe Risko,	Laborer,	19	S.	Maxwell,	Luzerne,	Painfully injured about body by fall of coal.
	13,	John Kisbaldage,	Laborer,	23	S.	Parrish,	Luzerne,	Two ribs fractured and painfully hurt about body by a fall of top rock.
	20,	George Price,	Driver,	19	S.	S. Shaft No. 1, Nanticoke,	Luzerne,	Several teeth broken and lip cut by a kick from mule.
	22,	Patrick Mulligan,	Mason,	37	S.	Breaker No. 2, Plymouth,	Luzerne,	Squeezed between a car and boiler front; painfully injured.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
June 22.	Roger Harrison,	Miner,	45	M.	Maxwell,	Luzerne,	Face, hands and arms burned by an explosion of gas.
22.	Michael Sweeney,	Laborer,	28	S.	Maxwell,	Luzerne,	Arm and head slightly burned by an explosion of gas.
26.	James Thompson,	Driver,	18	S.	N. Shaft No. 1, Nanticoke,	Luzerne,	Arm fractured by rock falling on a car upon which his arm was resting.
27.	Andrew Sedlock,	Laborer,	20	S.	Slope No. 6, Glen Lyon,	Luzerne,	Leg broken by a fall of top coal.
29.	Peter Gatz,	Laborer,	38	M.	Hillman Vein,	Luzerne,	Arm broken in three places and body painfully injured by a fall of top rock.
29.	Timothy Shovelin,	Miner,	38	S.	Woodward,	Luzerne,	Leg broken by a fall of rock.
29.	James Farrell,	Coal inspector,	28	M.	Dodson,	Luzerne,	Leg fractured; struck by a swinging rope, which caused him to fall.
30.	John Campbell,	Door tender,	15	S.	Maxwell,	Luzerne,	Leg crushed between cars when trying to couple them while in motion.
July 5.	John Lavansocus,	Laborer,	38	M.	Shaft No. 5, Plymouth,	Luzerne,	Thigh fractured by a fall of rock in a breast.
5.	Paul Katzejok,	Laborer,	45	S.	Shaft No. 3, Edwardsdale,	Luzerne,	One rib fractured and body painfully bruised by a fall of coal.
6.	Jacob Zewatski,	Miner,	40	M.	Shaft No. 4, Plymouth,	Luzerne,	Leg and two ribs fractured by a fall of top rock.
11.	Paul Teatsela,	Laborer,	40	M.	Alden,	Luzerne,	Toe cut off by a fall of a piece of rock while making room for timber.
12.	Stephen Pitulock,	Driver,	22	S.	Nottingham,	Luzerne,	Painfully hurt about chest; squeezed between car and rib.
15.	Mike Olisiozki,	Miner,	26	M.	Lee,	Luzerne,	Head, neck and arms burned by an explosion of powder.
18.	John C. Thomas,	Driver,	18	S.	Woodward,	Luzerne,	Arm and three ribs fractured; crushed between car and door post.
18.	John McCarty,	Runner,	21	S.	Nottingham,	Luzerne,	Knocked unconscious; a fall of rock knocked a prop out, which struck him.
18.	Andrew McGeehan,	Company miner,	50	M.	Maxwell,	Luzerne,	Two ribs fractured and bruised about head and hands; culm battery gave way and the debris ran upon him.
20.	Thomas Irwin,	Driver,	16	S.	Hollenback breaker,	Luzerne,	Toes bruised and two of them broken; he slipped and fell under a car.
21.	Mike Quinn,	Runner,	23	S.	Woodward,	Luzerne,	Leg severely bruised and cut by a fall of rock, which pinned him against side of car.

	25,	Albert Sherman,	Door tender,	17	S.	Wanamie No. 18, surface,	Luzerne,	Hip dislocated; caught between a car and boulder on surface.
	26,	Thomas Havard,	Runner,	23	S.	Lance No. 11,	Luzerne,	Two fingers cut off; car ran over them when he was holding a block before the wheel.
	28,	Thomas Worthington,	Driver,	27	S.	Shaft No. 4, Edwardsdale,	Luzerne,	Leg broken by a fall of coal while watching timbermen at work.
Aug.	3,	Julian Nerdoski,	Miner,	36	M.	Shaft No. 2, Edwardsdale,	Luzerne,	Back severely injured by a fall of top rock.
	5,	Charles Stalion,	Miner,	31	M.	Nottingham,	Luzerne,	Back severely bruised and body injured by a fall of coal which he pried down.
	7,	Frank Smith,	Miner,	30	S.	Stanton,	Luzerne,	Leg fractured; coal which he pried out fell against his leg.
	8,	David Thomas,	Door tender,	16	S.	Warrior Run,	Luzerne,	Arm fractured; kicked by a mule.
	8,	Thomas D. Morgan,	Miner,	58	M.	Red Ash No. 1,	Luzerne,	Cut and bruised on head and body, by a fall of the middle rock in Ross seam.
	11,	Frank Smith,	Slate picker,	13	S.	Lance No. 11 breaker,	Luzerne,	Four toes crushed off; used his foot instead of the scraper; caught in mechanical picker.
	11,	John Tinner,	Runner,	23	S.	No. 9, Sugar Notch,	Luzerne,	Face bruised and nose fractured by a kick from mule.
	12,	Anthony Lepcosky,	Miner,	27	M.	Lance No. 11,	Luzerne,	Face and chest severely cut and bruised by a blast; cut match too short.
	14,	Thomas J. Jones,	Shaft sinker,	25	M.	Shaft No. 4, Susquehanna Coal Co.	Luzerne,	Fell from a scaffold twenty-seven feet, in the shaft; head injured, but not seriously.
	14,	Tague Shovelin,	Miner,	42	M.	Shaft No. 2, Plymouth,	Luzerne,	Hip dislocated, three ribs broken and shoulder bruised by a fall of slate in gangway.
	17,	Frank Mulligan,	Driver,	21	S.	Baltimore Shaft No. 4,	Luzerne,	Arm fractured; car ran over block when he was blocking it.
	18,	Mike Sloatsko,	Laborer,	29	M.	Shaft No. 3, Edwardsdale,	Luzerne,	Leg fractured and cut on head and arm by a fall of rock.
	18,	Robert Theaman,	Carpenter,	35	M.	S. Wilkes-Barre breaker,	Luzerne,	Severe concussion of brain; fell from roof of new boiler house.
	21,	William Robinski,	Laborer,	25	S.	Shaft No. 1, Edwardsdale,	Luzerne,	Painfully injured about hips by a fall of top coal.
Sept.	5,	William McGrath,	Footman,	21	S.	Hollenback,	Luzerne,	Jaw fractured and head severely squeezed; caught between cars.
	8,	Thomas R. Evans,	Miner,	58	M.	S. Wilkes-Barre,	Luzerne,	Leg fractured by a fall of coal when mining under it at face of breast.
	8,	Peter Caffrey,	Loader,	16	S.	Hadleigh breaker,	Luzerne,	Leg severed by falling under a railroad car at the breaker.
	12,	William M. Roberts,	Miner,	34	M.	Woodward,	Luzerne,	Back painfully injured and cut on arm by a blast firing when he was approaching.
	12,	John Cannon,	Miner,	52	M.	Baltimore shaft No. 4,	Luzerne,	Spine fractured by a fall of top coal on returning after firing a blast.
	14,	Charles Navelcabage,	Laborer,	21	S.	Parrish,	Luzerne,	Leg broken by a fall of coal which he was helping to pull down.
	14,	Adam Pilcavitch,	Miner,	35	M.	Shaft No. 4, Edwardsdale,	Luzerne,	Leg injured by a lump of coal turning over upon him.
	15,	John Anderloski,	Miner,	46	M.	Stanton,	Luzerne,	Leg fractured; was poking coal out and a piece struck his leg.
	16,	William Sutton,	Miner,	65	M.	Shaft No. 4, Plymouth,	Luzerne,	Eye destroyed, and severely hurt on back and chest by a fall of rock when sounding it.
	18,	Merritt Nafus,	Miner,	42	M.	Shaft No. 3, Edwardsdale,	Luzerne,	Leg fractured by a fall of top rock.
	21,	Joseph Gill,	Footman,	24	M.	Shaft No. 2, Plymouth,	Luzerne,	Arm crushed between cars; flesh badly cut and bruised.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Sept. 22.	Thomas Casem,	Driver,	16	S.	Buttonwood,	Luzerne,	Hip fractured by a fall of rock at face of gangway.
23.	William A. Jones,	Miner,	30	S.	Shaft No. 5, Plymouth,	Luzerne,	Thigh fractured and wound on scalp; caused by a fall of coal.
25.	Mike Billar,	Miner,	40	M.	Baltimore Shaft No. 3,	Luzerne,	Two ribs fractured and bruised on body by a fall of coal.
29.	Hugh Evans,	Fire boss,	35	M.	Lance No. 11,	Luzerne,	Arm broken; fell when carrying a bag of feed in the barn.
29.	George Cooper,	Miner,	35	S.	Conyngham,	Luzerne,	Painfully injured by a fall of top coal.
Oct. 2.	George Kouch,	Miner,	28	M.	Woodward,	Luzerne,	Severely injured; struck down and ran upon by a runaway car in his breast.
2.	Nelson Swanson,	Miner,	51	M.	No. 9, Sugar Notch,	Luzerne,	Finger cut off and another crushed; a piece of coal struck his hand on the machine.
2.	James McGinty,	Miner,	34	S.	South Wilkes-Barre,	Luzerne,	Back and leg severely bruised by a fall of coal which he had pulled down.
9.	William Owens,	Laborer,	39	M.	Avondale,	Luzerne,	Hand smashed; car tipped and his hand got between it and top.
11.	David Haslem,	Door tender	15	S.	Lance No. 11,	Luzerne,	Leg severely injured; car took wrong track and ran upon him.
12.	Arthur Metcal,	Slate picker,	13	S.	Lee, surface,	Luzerne,	Thigh fractured; knocked down and ran upon by a culm car.
12.	Ed. Barneski,	Miner,	26	S.	Stanton,	Luzerne,	Face and hands burned by an explosion of gas.
14.	Thomas Y. Morgan,	Miner,	29	M.	Maxwell,	Luzerne,	Back and neck painfully bruised by a fall of top coal.
16.	Charles Savage,	Door tender,	15	S.	Stanton,	Luzerne,	Nose fractured and severe scalp wound; crushed between cars.
19.	John Dudick,	Miner,	46	M.	Hillman Vein,	Luzerne,	Face and hands burned by an explosion of gas.
21.	James White,	Ashman,	30	M.	S. Wilkes-Barre, surface,	Luzerne,	Ribs fractured; while lifting rope to a shieve the bar slipped and struck him.
23.	Thomas D. James,	Miner,	45	M.	Nottingham,	Luzerne,	All more or less severely burned on face and hands by an explosion of gas, which was in a cavity above the timbers. A car being run out caused the gas to move down to one of the lamps and all were burned.
23.	Adam Jones,	Laborer,	29	S.	Nottingham,	Luzerne,	
23.	Peter Labada,	Laborer,	24	S.	Nottingham,	Luzerne,	
23.	George Romanski,	Driver,	19	S.	Nottingham,	Luzerne,	
25.	Wadslick Babatisk,	Laborer,	27	S.	Wanamie No. 18,	Luzerne,	Hand severely crushed by a piece of coal falling on it from the rib.

	25,	Patrick Murphy,	Miner,	45	M.	Shaft No. 2, Edwardsdale,	Luzerne,	Leg fractured by a fall of rock while working at a pair of timbers.
	26,	Joe Rowlls,	Miner,	28	M.	Shaft No. 4, Edwardsdale,	Luzerne,	Painfully injured by a fall of clod in the Red Ash seam.
	28,	Martin Bolavitch,	Miner,	29	S.	Woodward,	Luzerne,	Face and hands burned by an explosion of gas.
Nov.	4,	Thomas McAnealy,	Laborer,	32	S.	Woodward,	Luzerne,	Severely cut on head and face; struck his head against the top when riding up a plane.
	6,	Adam Bereinsky,	Miner,	32	S.	Hillman Vein,	Luzerne,	Painfully injured by a fall of clod which he pulled down.
	8,	Joseph Ponsha,	Laborer,	21	M.	Woodward,	Luzerne,	Leg fractured by a lump of coal rolling against it.
	8,	Evan Jones,	Driver,	17	S.	Shaft No. 1, Edwardsdale,	Luzerne,	Shoulder fractured; crushed between a car and mule.
	9,	William Owens,	Miner,	46	S.	Red Ash No. 2,	Luzerne,	Severely bruised about body by a fall of middle rock in Ross seam.
	13,	Thomas L. James,	Miner,	39	M.	Maxwell,	Luzerne,	Body and back painfully bruised by a fall of middle rock in the Ross seam.
	14,	Charles Gallagher,	Door tender,	14	S.	Hillman Vein,	Luzerne,	Little finger severed and two others crushed; caught in block and tackle.
	16,	John Glosseck,	Laborer,	40	M.	Red Ash No. 2,	Luzerne,	Severely wounded on leg; caught between cars.
	17,	Simon Wascolonis,	Miner,	28	M.	Nottingham,	Luzerne,	Back painfully injured by a fall of bone in Ross seam.
	20,	Peter Rosscofski,	Laborer,	19	S.	Maxwell,	Luzerne,	Leg fractured by a fall of middle rock.
	21,	John Hannison,	Driver,	21	S.	Hollenback, surface,	Luzerne,	Hand crushed; caught under a car wheel while blocking it.
	22,	John Bearer,	Miner,	29	S.	Shaft No. 1, Edwardsdale,	Luzerne,	Face and hands burned by an explosion of gas.
	28,	Joseph Sumosky,	Miner,	35	S.	Lance No. 11,	Luzerne,	Severe cut on head; did not take time to escape when firing a blast.
	29,	John Ortz,	Laborer,	18	S.	Nottingham,	Luzerne,	Hand severely lacerated; was caught by car wheel when pulling block out.
	30,	John Mentafski,	Miner,	32	M.	South Wilkes-Barre,	Luzerne,	Leg and several ribs fractured by a fall of top coal; was barring the coal down.
Dec.	4,	Frank Cole,	Miner,	33	M.	Shaft No. 3, Plymouth,	Luzerne,	Leg, arm and back bruised by a fall of rock; not seriously.
	6,	Hugh Rourke,	Driver,	17	S.	Shaft No. 2, Plymouth,	Luzerne,	Severely wounded on leg by a piece of coal falling on it.
	7,	George Gosh,	Laborer,	27	S.	Bliss,	Luzerne,	Cut on forehead, nose and cheek; pulled a piece of top slate down upon himself.
	11,	David D. Davies,	Brattice man,	26	M.	Buttonwood,	Luzerne,	Severely injured on back and chest by a fall of top rock; he knocked a prop out and the rock fell.
	13,	Patrick Maher,	Miner,	36	M.	Shaft No. 1, Plymouth,	Luzerne,	Leg severely crushed by coal which he pulled down on himself; leg afterwards amputated.
	21,	Stanley Comisky,	Laborer,	26	M.	Avondale,	Luzerne,	Back painfully bruised by a fall of coal.
	21,	William J. Reese,	Driver,	21	S.	Stanton,	Luzerne,	Shoulder blade fractured; crushed between a car and mule.
	23,	George Bounger,	Laborer,	37	S.	Red Ash No. 2,	Luzerne,	Leg fractured and squeezed about body; caught between car and rib.
	27,	Jonathan Evans,	Miner,	47	M.	Shaft No. 3, Edwardsdale,	Luzerne,	Badly bruised about hips by a fall of rock.
	28,	Richard Evans,	Company laborer,	69	M.	Buttonwood,	Luzerne,	Three ribs fractured and cut on head; knocked a prop out and top fell on him.

FIFTH ANTHRACITE DISTRICT.

LUZERNE AND CARBON COUNTIES.

Hazleton, Pa., February 18, 1900.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: I have the honor to submit herewith my annual report as Inspector of Mines for the Fifth Anthracite District for the year ending December 31, 1899.

It contains the usual tables, which show that 6,191,027.03 tons of coal were mined, while 5,555,480.17 were produced the preceding year, an increase of 635,546.06 tons.

The total shipments, including local sales, were 5,486,832.08 tons. This was the largest production and shipment recorded in this district for the past three years. To accomplish this work 14,293 persons were employed, on an average of 185.6 days, while 1,206,368 pounds of dynamite and 2,679,300 pounds of soda powder were used in the mines and on the stripping operations in the district.

I regret very much to be obliged to report an increase in the number of accidents. The number resulting fatally was 43, which is an increase of 11 over that of the preceding year, while the number of non-fatal accidents was 86, an increase of 14 over that of last year, making the total fatal and non-fatal accidents 129, which, when compared with the report of 1898, is an increase of 24. Twenty-four wives were left widows and 67 children under the age of 16 years became orphans by these fatalities.

The quanaity of coal produced per life lost was 143,977 tons, which I consider a very good record, and which is only surpassed by the remarkable results of 1897 and 1898.

This report also contains a brief description of the important improvements made at some of the collieries during the year, together with a descriptive record of the fatal accidents and the responsibility for them.

Very respectfully yours,

W. H. DAVIES,

Inspector of Mines.

Tons of Coal Mined During the Year 1899.

A. Pardee & Co.,	320,356.15
The Cross Creek Coal Company,	1,081,387.05
Lehigh Coal and Navigation Company,	984,933.05
G. B. Markle & Co.,	1,086,843.06
The Lehigh Valley Coal Company,	708,606.01
Estate of A. S. VanWickle,	650,980.16
Calvin Pardee & Co.,	623,263.04
Upper Lehigh Coal Company,	215,060.05
M. S. Kemmerer & Co.,	97,176.00
Lehigh and Wilkes Barre Coal Company,	29,690.00
C. M. Dodson & Co.,	188,374.00
J. S. Wentz & Co.,	95,870.00
Audenried Coal Company,	91,114.06
Miscellaneous operations,	17,372.00
Total,	6,191,027.03

The total productions was made up as follows:

Shipped by railroad to market,	5,370,330.10
Sold at mines for local use,	116,501.18
Consumed to generate steam (estimated),	704,194.15
Total,	6,191,027.03

Number of Fatal Accidents and Tons of Coal Mined per Life Lost.

Names of Operators.	Number of lives lost.	Tons of coal mined per life lost.
A. Pardee & Co.,	2	160,178
The Cross Creek Coal Company,	5	216,277
Lehigh Coal and Navigation Company,	7	140,704
G. B. Markle & Co.,	8	135,855
Lehigh Valley Coal Company,	7	101,229
Estate of A. S. VanWickle,	4	162,745
Calvin Pardee & Co.,	4	155,815
Upper Lehigh Coal Company,	1	215,060
J. S. Wentz & Co.,	3	31,956
M. S. Kemmerer & Co.,	1	97,176
Audenried Coal Company,	1	91,114
Total and average,	43	143,977

Number of Non-Fatal Accidents and Tons of Coal Mined per Person Injured.

Names of Operators.	Number of persons injured.	Tons of coal mined per person injured.
A. Pardee & Co.,	4	80,689
The Cross Creek Coal Company,	24	45,057
Lehigh Coal and Navigation Company,	3	328,311
G. B. Markle & Co.,	19	57,292
Lehigh Valley Coal Company,	11	81,418
Estate of A. S. Van Wickle,	11	78,180
Calvin Pardee & Co.,	11	56,660
Upper Lehigh Coal Company,	1	215,060
C. M. Dodson & Co.,	2	94,187
Total and average,	86	111,129

Number of Fatal and Non-Fatal Accidents and Tons of Coal Mined per Accident.

Names of Operators.	Number of accidents, fatal and non-fatal.	Tons of coal mined per fatal and non-fatal accident.
A. Pardee & Co.,	6	53,392
The Cross Creek Coal Company,	29	36,599
Lehigh Coal and Navigation Company,	10	98,493
G. B. Markle & Co.,	27	40,253
Lehigh Valley Coal Company,	18	39,367
Estate of A. S. VanWickle,	15	43,398
Calvin Pardee & Co.,	15	41,550
Upper Lehigh Coal Company,	2	107,530
M. S. Kemmerer & Co.,	1	97,176
C. M. Dodson & Co.,	2	94,187
J. S. Wentz & Co.,	3	31,956
Audenried Coal Company,	1	91,114
Total and average,	129	64,584

Comparative Statement Showing the Number of Tons of Coal Produced, Number of Fatalities, Tons of Coal Produced per Fatal Accident, Number of Persons Employed per Life Lost, and the Number of Deaths per Thousand Employed for the Past Ten Years.

Years.	Production of coal in tons.	Number of fatal accidents.	Tons of coal produced per fatal accident.	Number of persons employed.	Number of persons employed per life lost.	Number of deaths per thousand persons employed.
1890,	5,776,699	52	111,090	14,421	319.26	3.548
1891,	5,803,964	53	109,509	14,961	277.33	2.949
1892,	5,842,721	48	121,725	16,277	282.28	3.307
1893,	6,239,068	58	107,570	17,540	339.19	3.103
1894,	6,132,627	58	105,735	18,361	302.48	3.461
1895,	6,590,966	52	126,750	18,467	316.57	3.470
1896,	5,872,427	42	139,819	17,568	355.13	1.941
1897,	5,487,550	33	166,289	17,119	418.28	2.184
1898,	5,555,850	32	173,620	14,649	457.78	3.014
1899,	6,191,027	43	143,977	14,293	332.39	3.606

Nationality of Persons Fatally and Non-Fatally Injured.

	Americans.	English.	Welsh.	Germans.	Irish.	Scotch.	Austrians.	Poles.	Hungarians.	Italians.	Totals.
Fatal accidents,	8	3	2	.....	6	1	1	10	8	4	43
Non-fatal accidents,	16	3	.....	5	9	.....	7	7	29	10	86
Total,	24	6	2	5	15	1	8	17	37	14	129

Table of comparison showing number of different causes of fatal accidents in the Fifth Anthracite District during the past ten years.

Causes of Accidents.	1890.	1891.	1892.	1893.	1894.	1895.	1896.	1897.	1898.	1899.	Total.
Asphyxiated by gases,	.....	6	.....	.....	.....	.....	.....	5	.....	.....	11
By explosion of gas,	1	.....	.....	1	1	1	.....	.....	.....	2	6
By falls of coal, rock and clay,	19	16	25	18	21	24	18	9	16	18	184
By premature blasts and explosions of powder,	1	1	2	11	15	7	2	2	1	2	47
By mine and railroad cars in and about the mines,	19	6	15	15	15	13	11	10	8	9	121
By machinery in and about the mines,	7	5	3	4	3	2	4	2	3	2	35
By boiler explosions,	.....	1	.....	.....	.....	1	3	.....	.....	.....	5
From miscellaneous causes inside and on the surface,	5	6	3	9	3	4	4	5	4	10	53
	52	44	48	58	58	52	42	33	32	43	462

Recapitulation of fatal accidents as per Table IV.

Occupations.	Number killed.	Per cent.	Nationality.	Number killed.	Per cent.	Causes of Accidents.	Number killed.	Per cent.
Mine foreman,	1	.0023+	Americans,	8	.0186	By explosions of C. H. gas,	2	.0046
Assistant foreman,	2	.0046+	English,	3	.0069+	By falls of coal and rock in the mines,	14	.0325
Miners,	19	.0441+	Welsh	2	.0046	By falls of coal, rock and clay on stripping,	4	.0093
Miners' laborers,	5	.0116	Scotch,	1	.0023+	By mine cars, inside of mines,	2	.0046+
Drivers and runners,	3	.0069+	Irish,	6	.0139	By mine and railroads cars on the surface,	5	.0116
Outside laborers,	6	.0139+	Poles,	10	.0232	By mine and dump cars on stripping,	2	.0046+
Other company men,	3	.0069+	Austrians,	1	.0023+	By premature blasts,	2	.0046+
Slate pickers,	1	.0023+	Hungarians,	8	.0186	By machinery,	2	.0046+
Car oilers,	2	.0046+	Italians,	4	.0093	From miscellaneous causes in the mines,	4	.0093
						From miscellaneous causes on the surface,	6	.0139
	43	100.00		43	100.00		43	100.00

Recapitulation of non-fatal accidents as per Table V.

Occupations.	Injured.	Per cent.	Nationality.	Injured.	Per cent.	Causes of Accidents.	Injured.	Per cent.
Mine foreman,	1	.0011	Americans,	14	.0162	By explosion of C. H. gas,	8	.0093
Fire boss,	1	.0011	English,	3	.0034+	By falls of coal, rock and slate in the mines,	20	.0232
Miners,	23	.0267+	Germans,	5	.0058+	By falls of rock and clay on the stripping,	2	.0023
Miners' laborer,	26	.0302	Irish,	11	.0127+	By mine cars inside the mines,	10	.0116
Drivers and runners,	15	.0174	Austrians,	7	.0081	By mine and railroad cars on the surface,	3	.0034+
Outside laborers,	7	.0081+	Poles,	8	.0093	By mine and dump cars on stripping,	5	.0058+
Other company men,	4	.0046+	Hungarian,	27	.0313+	By explosion of powder,	1	.0011+
Patchers,	2	.0023	Italian,	11	.0127+	By premature blasts,	10	.0116
Slate pickers,	3	.0034+				By machinery,	2	.0023
Engineers,	4	.0046+				From miscellaneous causes in the mines,	10	.0116
						From miscellaneous causes on the surface,	15	.0174+
	86	100.00		86	100.00		86	100.00

Surface Method of Mining.

Mine stripping, or the method of mining anthracite coal by first removing the overlying or superincumbent strata, has been generally adopted throughout the Fifth Anthracite District, and there is not a mine operation in the district but can be found doing more or less mining of coal by the stripping method, operating from one to seven steam shovels, and in fact some still cling to the old method of removing the strata by hand, which is very expensive and slow.

The general principles of mine stripping are identical, while of necessity the methods vary in detail, depending on the surrounding conditions, and ofttimes the views of the person in direct charge of the work. However, at a fixed point on the territory about to be stripped, usually the most convenient to the dumping ground is selected, the shovel is set up on blocks made expressly for the purpose, and which are usually about 12x12 inches by 4 feet long, placed lengthwise underneath each corner and by means of jack screws the weight of the shovel is partly transferred to the blocks, which are given an even and firm bearing on the soil. Work is then begun on a descending grade of about one-half to one and one-half in ten, the shovel cutting its own way and loading the material into cars which are run on a track parallel with the shovel and within reach of the crane, a mine locomotive usually being used to handle the cars. This grade is continued until the required depth below the surface has been reached, which is generally from 14 to 16 feet, when this grade is abandoned and the shovel assumes a nearly horizontal position, maintaining as near as practicable a uniform depth of cut. Much deeper cuts may be taken in free or sandy soil. For example: In the case of a culm bank, where the culm rushes down to the road grade as the shovel advances, there is practically no limit to the depth of cut, while in the stronger and tougher soil, the dipper is loaded directly from the solid ground, and must be within reach of the entire face, as it is often necessary to reach up and load the dipper near the surface line or to dislodge roots, etc.

The steam shovels in use at some of these operations are the Kingsford crane shovel (with friction gearing), with a total weight when new of forty-seven tons. This weight is materially increased by the application of heavy steel plating to the sides of the crane, as a means of strengthening, and other devices to accomplish the same end.

In moving the shovel ahead, the jacks are slacked and the entire weight of the shovel is brought down upon its own wheels, which rest on a track consisting of flat rails laid on and attached to 10x10 inches by 4 feet oak blocks, which, to form a track, are linked together end to end and these are laid in heavy wood gauges to prevent spread

ing. As the shovel advances the blocks are taken from the rear end of the shovel to the front, and laid in place. The shovel, by the use of friction gearing, is moved forward by its own power. When blocks are reset, jacks replaced, tightened and adjusted, the shovel is then in readiness for work. The entire process of moving the shovel under favorable circumstances consumes about ten minutes, or a general average of about fifteen minutes.

In operating a shovel three men are directly employed, the engineer who hoists the dipper and swings the crane, the craneman who directs the dipper while loading, and empties it into the car, and the fireman, while there is usually a working force of twenty-five men to each shovel, drillers, drivers, roadmen, dumpers, locomotive engineers and jackmen.

In some instances the cars are hauled directly to the dump by mules, while at other places the material is hoisted up planes from the shovel pit directly to the top of the bank, and then hauled to the bank by mules.

Two drillers are usually kept in advance of the shovel, and in very hard rock they are operated day and night. Holes are bored to a depth slightly below the grade of the shovel. These holes are charged with light charges of dynamite and exploded (this is termed springing), and by successive exploding of larger charges until a sufficient opening has been made to charge the ground with the final charge, which may consist in hard rock 10, 20 or even 25 kegs of black powder.

It is generally conceded by men of experience in stripping that the greatest depth of cut in which a shovel can be most successfully operated is from 12 to 18 feet; some men have taken greater cuts in soft shaley or argillaceous material, still I am of the opinion that it is not practicable to go beyond the maximum depth of 18 feet.

The quantity of material removed by this method of operation varies widely, ranging from 3,000 to 18,000 cubic yards of rock per month, while I am safe in saying that in clay or earth the figures scarcely reach as low as 3,000 yards, while they seldom exceed 18,000 yards.

The method of mining anthracite coal by stripping the overlying strata on a large scale was first introduced into this region by Calvin Pardee & Co., at Hollywood, Luzerne county, in the year 1874. This tract, which embraces the western extremity of the Little Black Creek basin, has a Mammoth vein area of about forty acres, the dividing basin running westward, forming two separate canoe-shaped local basins, which are especially marked throughout the coal area of this tract. The basin, however, being connected from the eastern boundary line westward for a considerable distance by the continuation of the coal across the intervening anticlinal, formed a large area of nearly horizontal coal measures too shallow

for successful mining by the methods then in vogue. An area of 40 acres about 45 feet in thickness, with an assumed specific gravity of 1.5, or 1,823 tons of 2,240 pounds, per foot acre, would give as the original contents of this tract 3,281,400 tons, but owing to the shallowness of the overlying strata, which necessitated the arching of the upper benches of coal in the breasts throughout this portion of the tract, I might state that local deflections, thickness of seam and steepness of the measures in other portions, there was but 706,944 tons, or 21½ per cent of the original contents mined, which would have constituted the total quantity of coal mined by this method, viz: Pillar and breasts.

The stripping commenced, as previously stated, during the year 1874, and continuel until the abandonment of the colliery in 1898, during which period there was 2,529,110 cubic yards of cover removed and 98.32 per cent. of the original contents in tons of coal had been won from said operation, showing a loss to the land owner of only 55,162 tons, or 1.68 per cent. of the original contents of these two great coal basins. Now, taking into consideration the original contents of the tract at 3,281,400 tons of coal and making the proper deduction of 706,944 tons won by the pillar and breast system, we find in favor of the stripping or surface method of mining the difference between the original contents and the quantity won by the underground method, showing that 2,521,294 tons of coal had been won by the stripping method that could not have been won by any other method, as the aforesaid is a clear example where the colliery was totally abandoned by the original underground method prior to commencing operations by the stripping or surface method of mining.

Remarks on Fatal Accidents.

It has been my painful duty to chronicle 43 fatal and 86 non-fatal accidents in this district for the year ending December 31, 1899. Of the number of accidents proving fatal 53½ per cent. occurred inside the mines, while 46½ per cent. resulted from injuries received on the strippings and about the collieries on the surface.

I deem it necessary to review these sad occurrences, giving the causes for and responsibilities in connection therewith. I regret very much to state that with ordinary precaution on the part of the unforunate victims themselves, a large percentage of these fatalities could have been prevented.

While it is a well-known fact that all accidents in and about mines cannot be avoided, yet, in reviewing the causes, it is nevertheless true that to reduce the casualties in this district, it behooves every person employed in whatever department he may be engaged, to give the most unwavering attention to his duties, so that,

if notwithstanding this, an accident should occur, he may be clear of that most severe of all punishment, self-condemnation.

Andrew Gowity, a slate picker, employed by the Lehigh Valley Coal Company at their Spring Brook breaker, was instantly killed by a falling chute on January 28. The chute partly underlies the hopper of No. 1 mud screen; from the hopper the coal which passes through said mud screen is conveyed by a chute into No. 2 counter screen. It was the duty of the man at the regulator to see that the coal was properly distributed into those chutes, and to prevent it from blocking up in them, but through the negligence and carelessness of said watchman, the chutes were allowed to fill up with coal until the revolving screen began to press upon the coal, thus throwing the entire strain of the moving machinery upon the chute, causing it to finally collapse and fall upon the victim who was engaged beneath picking slate, with the aforesaid result. I consider that the watchman was alone responsible for this accident.

Andrew Butsko, outside laborer, employed at Hazle Brook colliery, was fatally injured January 20 and died before reaching his home. He, of his own accord, went to assist in moving railroad cars under the breaker, when, in some unknown manner, his head was caught and crushed between the moving railroad car and the side of the breaker. The investigation of this accident showed conclusively that this young man had no business whatever with the cars other than curiosity, and he went to assist the loader at the time to move the cars, without any authority from the foreman or any person in charge of the work, consequently, he was alone responsible for the accident.

John Moody, a laborer, employed at Cranberry colliery No. 1, was instantly killed by a fall of coal on the main slope on January 28. The breaking of the hoisting chain on the main slope caused the three loaded cars to run back down the slope to a point midway where they became derailed, displacing several props along the slope, thus leaving a bench of coal on the side or rib of slope unsupported. The victim, together with a number of other company laborers, hurried to the scene of the wreck without giving a thought to the safety of the place, and commenced to clean up the loose coal, and while thus engaged, a piece of the overhanging coal bench fell from a slip without warning, with the aforesaid result. It is the opinion of the writer that had the victim taken the usual precautionary measures this accident would have been averted.

Anthony Reilly, foreman, employed on the Milnesville stripping, operated by the estate of A. S. Van Wickle, was fatally injured on January 30, and succumbed to his injuries a few hours later at the Hazleton hospital. He was foreman, in charge of the mining of coal on the aforesaid stripping, particularly the western portion of

it. He had given orders to the men employed along the line to go to a place of safety, that the men at the extreme eastern end were about to fire several rounds or blasts in advance of the steam shovels. The men immediately obeying the order, went to the usual place of safety, while Reilly, with Engineer Edward Lewis, moved back to a point 900 feet west of the point where the blasting was being done, where they stood, as on previous occasions, to witness the upheaval of the rocks by the blasts, feeling absolutely safe, but when the blasts were fired, a piece of rock weighing possibly 50 pounds was carried in the direction where the two men were standing. They both saw it coming; Lewis remained in the same position watching the course of the flying rock, while Reilly, fearing he was too close, turned to run further west, when he was overtaken by the flying missile, which struck him on the back, inflicting internal injuries which resulted in death.

John Hoffman, a patcher, employed on the No. 10 stripping at Eckley, was instantly killed on February 3 by having been crushed between a derailed mine car and a pillar of coal. He was standing near the entrance of counter gangway leading to the stripping. A loaded car was at the switch, which had been run down from the west branch and would remain there until the balance of the trip was collected and run down against it. The driver, Michael Mihalko, sent young Hoffman to head of run in counter gangway to assist the runner inside, while he would collect the remainder of the trip on the stripping and run them down to the car standing at the switch near the entrance to the gangway. When the driver had collected the trip he came down with six loaded and four empty cars. Owing to ice on the track he had to take out some of the sprags, thus giving the trip somewhat of a start and causing it to bump against the standing car at the switch with more than the usual force, derailing the car and forcing it against a pillar of coal. Hoffman, who had returned from the gangway, was standing at the side of the car when they came together. He was caught between the car and pillar of coal. This was an unavoidable accident.

Joseph Logan, a miner, was employed in slope No. 11, Sandy Run colliery, was instantly killed by a fall of coal, rock and clay in a breast February 17. I went to the scene of this accident and found that Logan was still entombed in the breast and could not be released until the material was drawn from it. This work was continued for twenty-four hours, when the body was recovered. A careful examination of the scene, together with testimony of those upon the scene, showed that Logan was engaged robbing or skipping pillars. He had been warned two days before the day of accident, by the mine foreman, not to fire any more shots in the breast, but the victim, seeing the opportunity whereby he could by firing a shot,

make loose several cars of coal, disobeyed the order of the foreman by drilling a hole in the coal and firing the same. He came down to the gangway, sent his laborer out to the bottom of the slope for empty cars, while he (Logan) would take lunch. Before the laborer returned, Logan went to examine the work done by the shot, when the roof of the breast caved to the surface, with the aforesaid result. His failure to obey the order of the foreman cost him his life.

John McCahill, a team driver, employed at Highland No. 5 colliery, was fatally injured on February 22 and died at the Hazleton hospital. Deceased was taking a trip of empty cars into tunnel D, east gangway. He had reached the first siding or turnout when accident occurred. The patcher, John Kain, on the rear end of the trip, testified that on hearing McCahill's cries for help, he hurried forward and found him on the low or gutter side of the gangway, bleeding. When I got to him, he said to me, "Help me out." I assisted him back to the end of the turnout, where we met the other drivers. I did not see the accident, neither do I know what happened, but I though he was kicked by a mule, from the position in which I found him in the gutter. McCauley and Gallagher corroborated Kain's testimony, adding that it was no more than what they expected for they had warned the victim of his reckless manner of using the whip on the mules. The exact cause of this accident will always remain a mystery, but from an examination of the place, together with the testimony of the witnesses, it was evident that the deceased came to his death from being kicked by a mule.

John P. Thomas, a miner, employed at No. 9 colliery, Lansford, was instantly killed on March 1 by a premature explosion of dynamite. Deceased was at the battery, which was thirty-five feet from the gangway. He saw that a large lump of coal had the battery blocked. He called to his partner, Daniel Daley, who was on the gangway, telling him to load one buggy of coal from the chute, after which he would fire a shot on the lump in the battery, but while in conversation with Daley the explosion occurred whereby Thomas was instantly killed. The exact cause of this explosion will always remain a mystery, but judging from an examination of the place, together with the testimony of his partner, that the victim had picked a hole in the lump of coal and was placing the powder, together with the detonator, in it, when a spark from his lamp possibly entered the detonator, causing the explosion and accident. I find that even the most careful and experienced miners are very careless in the use of explosives.

John Ondrosic, a miner, employed at colliery No. 4, Harwood, Pa., was fatally injured by a fall of clod March 3. He was employed driving a counter gangway crossing the face of breasts in the Gamma vein. While the loaded buggy was being pushed out from face of

gangway it became derailed on the curve about fifty feet from the face of the gangway, necessitatnig the unloading of the buggy to enable the men to replace it on the track. Once on the track they commenced to reload the buggy, when suddenly the laborer, John Dombrosky, heard a cracking in the top and called to Ondrosic to look out the top was going to fall, but before the victim had time to escape he was caught beneath the falling slate. This accident would not have occurred had the deceased taken the proper precaution by either propping the clod or blasting it down when he knew it to be unsafe. He had been warned and even ordered to take the clod down by the foreman the day before, still he persisted in taking unnecessary chances, which finally cost him his life.

John Thomas, a miner, employed in tunnel No. 1, Colliery No. 1, Nesquehoning, Pa., was instantly killed by a fall of rock March 11. Deceased, with his partner, was working breast No. 15, North 28 gangway. On the evening prior to the accident he had fired a shot before leaving off work for the day, which loosened a bowlder of rock in the top between two props five feet apart that were placed to support the top. The next morning he commenced work as usual by examining the top by sounding it with a miner's pick, when, without a moment's warning, the bowlder fell upon him, causing instant death. Deceased was considered a very careful miner in every particular, still the most practical miners have fallen victims to similar rock bowlders, bells or pots in the top, which are conceded to be very dangerous in mining. This was an unavoidable accident, although I think that the miner made a mistake in not making an examination of the breast immediately after firing the shot or before leaving for his home. This would give him a warning that he could never have got ten or twelve hours after firing; besides, a miner should so secure his place upon leaving, that it would be safe for the examiner and himself to go into in the morning.

William Plancus, oiler, employed at the Spring Brook colliery, was instantly killed on March 15 by machinery. Deceased had been employed oiling machinery in the breaker for nearly two years. He was regarded as careful and competent for the work. On the morning of the accident he commenced by oiling the slate conveyor shaft pedestals. It was his practice to start at the west end, then return and go around the driving shaft boxes. Both these points could be reached without coming in contact with any of the machinery, but for some unknown cause, Plancus, on this trip, instead of taking the usual course, jumped over the west bearing block, possibly to take a short cut to the other pedestal, and while thus engaged he slipped and fell against the revolving shaft, his clothing becoming entangled in a revolving sprocket wheel, which whirled the victim

around with terrific force, breaking his neck and causing instant death. This was another accident where a young man thoughtlessly threw away his life.

Patrick O'Donnell, hitcher, employed at the Stockton washery, was fatally injured on March 16 and succumbed to his injuries ten days later at the Hazleton hospital. Deceased was employed as hitcher at foot of breaker plane, and fearing, after unhitching a car that it would run away and collide with the incoming locomotive, he ran after the car trying to sprag it, when the missed sprag flew, striking the victim, causing him to fall from a trestle a distance of twenty-three feet, causing internal injuries with the result as stated. This was a very sad accident, one in which the deceased sacrificed his own life in trying to save others. I consider, under the circumstances, that it was a unavoidable.

Michael Daley, a laborer, employed as loader at No. 6 colliery, Lansford, was instantly killed on March 16 by a rush of coal in a breast. Deceased was engaged loading coal into a car on the gangway from a chute. When the car was loaded he went up to the battery, found the loose coal in the breast sticking above the battery. He, instead of reporting this matter to the man whose duty it was to start the coal in the battery, went up the west manway of the breast, taking with him a heavy hammer, and commenced to hammer on the manway, expecting to start the loose coal in the breast. While thus engaged the coal suddenly made a rush, crushing the manway and pinning the victim against rib of breast with the aforesaid result. Deceased was alone responsible for this accident. His methods were foolhardy, non-practical and according to the rule of the mine he had no business there whatever as there was a practical miner employed for that purpose, who is known as a battery starter.

Daniel Marley, assistant general inside foreman of the collieries operated by G. B. Markle & Co., was fatally injured at Highland No. 5 colliery on April 1. Deceased, with another man named Thomas Brehony, was at the bottom of No. 5 tender slope. The latter went to the bell wire to signal the engineer to lower the man car, while the victim stood on the slope track waiting for the car to come down. Brehony testified that he signalled the engineer the second time and shortly afterwards he heard something come rolling down the slope. He called to Marley to look out, but before he had time to move he was struck in the face between the eyes. He was standing about five feet below Brehony when he was knocked down by the rock, inflicting such injuries as to finally cause death. A careful examination of this accident showed that at the time the two men were signaling the engineer, he was hoisting a car of rock, and there is no doubt that the piece of rock which struck Marley must have

fallen from the car while going up the slope. Deceased knew that all men were supposed, while waiting for a car, to enter the safety room. This was the understood rule of the colliery. The disobedience of this rule cost him his life. This should be a lesson to all mining men to obey rules that are compiled for their own safety.

James Laroc and Lawrence Patrole, two miners employed at Hazleton No. 3 colliery, were instantly killed on April 18 by a fall of coal. These men were working in breast No. 65, second lift, east Wharton gangway. They had fired a shot in the bottom bench. This shot had not completely taken out the cut so that the two men, one with a pick and the other with a drill, were under the overhanging top bench working out the balance of the undercut, when the top bench fell upon them, with the aforesaid result. Mine Foreman Thomas Mimford, wanted to notify them that they could get a car if they wanted to load, and failing to get any response to his repeated calls, went up the breast and found the two men lying beneath the fallen coal. A careful examination of the place showed that the methods pursued by these men were non-practical. While they might have been considered good workmen, possessing miners' certificates, etc., yet the very act which cost their lives would have been madness for an experienced miner to attempt.

Andrew Cherba, driver, employed on the stripping at Hazle Brook colliery, was, on the 9th of May, instantly killed. Deceased was driving a single mule with an empty car on the coal stripping. Fearing that the men were waiting for a car, he was traveling somewhat faster than usual, when, passing over a switch, the spreader dragging, became fastened between the rails, bringing the mule to a sudden stop, the car running up against it with great force. The driver, who was on the front end of the car trying to unhitch the mule from the car, was crushed between the car and mule, causing instant death. This was an unavoidable accident.

Matthew Bell, a miner, employed at Colliery No. 1, Drifton, was fatally injured on May 9 by a premature blast. Deceased was a contract miner working S. W. Wharton counter gangway. He had drilled two holes in the bottom rock twenty-seven inches deep. According to the testimony of his laborer, John Popick, they had charged one of these holes in the bottom rock with XXX-giant powder, inserted the fuse and cap and placed one half stick of powder after the fuse and cap; he then put in the wrapping paper taken from the powder, which he pushed into the hole with a hard wood tamping stick; his laborer put in a handful of dirt and Bell proceeded tamping very hard, so much so that Popick told him that he was tamping too hard and to look out. The powder just then exploded and threw Popick up against the roof. He struck matches, found his lamp, called for Bell, but he could neither see nor hear him. Starting

home, he met the driver, who reported the matter to the mine foreman, who went down with a party and brought Bell out, and while en route for the Hazleton hospital he died of his injuries. This man was considered one of the best miners in the colliery, thoroughly practical and intelligent, yet he made the fatal mistake which cost him his life.

John Degotis, a miner, employed at No. 5 colliery, Harwood, Pa., was instantly killed May 25 by a fall of clod. Deceased was engaged in a breast near the face of Southwest Gamma gangway. His laborer, Frank Febris, testified that the miner had been told by the assistant foreman, Thomas Paisley, to take down overhanging clod, so he drilled a hole in it and was ready to charge it with powder, when, changing his mind, he started to drill a hole in the face of breast and fired it, then returned to the face to trim after the shot, and while thus engaged the clod fell upon him, resulting as stated, and so another death is recorded through the ignorance, recklessness and disobedience of the victim himself.

John Horrish, a miner employed at No. 2 shaft colliery, Upper Lehigh, Pa., was instantly killed on June 8 by a fall of clod. Deceased was engaged working a breast, the face of which was about twenty feet off the gangway. He had fired a shot, knocking out five props along the gangway, in line of breast. George Cooal, a miner in the next breast, testified that he had informed Horrish that several props had been knocked out and that he should be very careful not to go back too soon, that the clod might fall since the props had been knocked out, but he replied that he knew his business and immediately went back, not heeding the advice of an experienced miner. He had no more than reached the spot when the clod fell, killing him instantly. Had he taken the warning of his fellow miner, there would have been no occasion for this record. It was simply madness, combined with ignorance and recklessness of the victim himself.

Joseph Ulisino, a miner employed at Hazle No. 3 colliery, was instantly killed on June 9 by a fall of rock in a breast. He had put up two props in the manway, sounded the top with a pick and said that it was perfectly safe. Feeling confident that his judgment was correct in the matter, he commenced to drill a hole in the face of breast, when suddenly a bowlder of rock fell out upon him without warning, with the result as stated. His partner, who was working on east rib of breast, hurried to his assistance but could not remove the rock. He went for help to remove the rock, which was 18 inches by 4 feet 5 inches by 6 feet 5 inches, while the thickness was only two feet. This was an unavoidable accident that might have happened to the most expert and experienced miner.

John Lesko, a miner employed at Jeddo No. 4 colliery, was fatally injured on June 12, by a fall of coal and died three days later at the Hazleton hospital. Deceased was shoveling loose coal back in the breast that he might have, as he termed, a good chance to bar down the piece of top bench which he knew was bad, but while throwing the coal back the bench fell upon him, with the result as stated. A careful examination of the scene showed that Lesko, as a rule, was a careful miner, always keeping props well up to the face. This, however, is a common mistake among the miners, neglecting to act at the proper time, that is, as soon as they discover a bad piece of overhanging top rock or coal, then is the proper time to apply the remedy. This accident would not have happened if the deceased had taken the precaution to act in time by taking down the bench when he found it unsafe.

Fred. A. Smith, loader boss, employed at the Milnesville breaker, was instantly killed on July 12, by having been crushed between a railroad car and the breaker timber. Deceased had been employed as loader for eighteen months prior to the month of June, when he was promoted to the position of loader boss, he being considered a careful, trustworthy and energetic fellow. The exact cause of this accident will always remain somewhat in doubt from the fact that there was no eye witness to the accident. However, a careful examination of the scene showed that deceased was trying to start out two loaded cars from under the breaker. He was behind the cars until they came out from under the main body of the breaker, when he made a dash to get to the brake on the front end of the first car. While thus engaged he was crushed between the side of the moving car and breaker timber, where he was picked up by Coal Shipper W. A. Gibson, who was first upon the scene. This accident, it seems to me, could have been prevented had the usual precaution been taken by the victim himself.

John Gallagher, a miner employed at Jeddo No. 4 colliery, was fatally injured on the 13th of July by a fall of bony coal He was engaged with his partner, Charles Mock, in robbing pillars in East Wharton gangway, breast No. 9. He had fired a shot in cross-heading in the pillar, near the battery, then went to his dinner; after dinner he returned to trim the loose coal after the shot, and while thus engaged a piece of bony coal fell out, striking him in the face, crushing his nose and fracturing the upper and lower jaws. He was removed to the hospital, where he succumbed to his injuries later. A careful examination of the scene showed that the deceased had neglected to take the usual precaution in securing the entrance to the cross-heading before firing the fatal shot, which was beyond question due to the absence of forethought or the lack of practical experience on the part of the victim himself; therefore, he alone was responsible for the accident which cost him his life.

Michael Supko, a miner employed at Jeddo No. 4 colliery, was fatally injured on July 17 by a fall of rock. He, with his partner, John Tetrence, were walking up toward the face of breast, when a shale of the top rock fell upon Supko, inflicting internal and external injuries. It was only a miracle that both men were not instantly killed. A careful examination of the breast revealed the fact that it had been worked, with the exception of the Six Foot, many years ago. Rock had been dumped into the breast to an elevation so as to permit the mining of the Six Foot bench. John Tetrence testified that they did not examine the top every day, but had reported it safe to the foreman two days before the accident. Why they did not examine the top daily he was not prepared to say. I am of the opinion that had these men taken the precaution to make a daily sounding of the top, the accident would not have happened.

William H. Bromener, carpenter, employed at Derringer colliery, was killed on July 19 by falling from a plank, striking his head against the floor in supply room and fracturing his skull. An investigation of this accident showed that deceased, while crossing a plank and crawling under a beam in Derringer supply storehouse, fell from second floor to first floor, a distance of 12 feet 4 inches, with the aforesaid result. He was lying on his face when found. He probably lived ten minutes after the accident. It was very evident that he was more or less excited when he entered the second floor, knowing that a teamster was waiting on the outside of the building for the material which he went for, consequently, in the hurry he made a misstep, which cost him his life. This was an unavoidable accident.

Charles Eisenman and Maurice Schlauch, miners, employed at the Derringer colliery, were fatally injured on July 27 by an explosion of carburetted hydrogen gas. These two miners were working as partners in breast No. 77, east No. 14 gangway. They were working in said breast until about thirty minutes before an explosion occurred, when they were seen coming out of east No. 14 gangway and going into No. 17 east gangway. The investigation proved that the gas causing the explosion was ignited in breasts Nos. 273 and 274, east No. 17 gangway, which were finished and fenced off with planks and boards at the bottom of breasts near the gangway, showing that every precaution had been taken to prevent men from going into those breasts after they were finished. Still, these men deliberately went beyond the fence with naked lights and ignited the gas, causing a terrific explosion and painfully burning six other men who, from inexperience and for the want of knowing what to do, could not save themselves. The injured men testified to having seen both Eisenman and Schlauch going into east No. 17 gangway before the explosion and returning after the explosion. Eisenman's hat was found on the gangway between these two breasts, proving con-

clusively that the accident was caused by the recklessness of the aforesaid miners entering the abandoned breast with their naked lights and igniting a body of gas. The men, unassisted, made their way to the surface but, strange to say, they both succumbed to their injuries at their homes twenty-four hours later. A careful examination of the scene showed that breast Nos. 273 and 274, on east No. 17 gangway, to be the only breasts or chambers in the entire mine containing gas. The mine officials had taken every precaution immediately on the abandonment of the breasts by fencing off the entrance to the same near the gangway as a precautionary measure; still, according to the testimony of eye witnesses, these two practical miners went beyond the danger line with naked lights, causing a terrific explosion and most distressing accident, resulting as stated. Why they made this mistake will always remain a mystery, as neither of the two victims were able to give an account of the accident.

Daniel Horn, outside laborer, employed at Hazleton shaft colliery, was fatally injured on July 29 by having been run down by cars, and died from his injuries at the hospital. Deceased was employed on the culm bank. It was also a part of his duty to ride back and forth between the bank and the breaker on the locomotive. When they were about to take a trip of ten loaded cars from the breaker he told the patcher that he would take the trip over, Horn riding on the dump car while the patcher rode on the locomotive. On the return from the culm bank Horn was riding on the front end of the trip on the left side. At a point twenty feet from the switch which Horn was to throw, the patcher, seeing the switch was against them, jumped off the locomotive to set it. The engine was stopped and the patcher, Fred. Doud, looked around for Horn and found him lying under the car, two cars having passed over his leg. He admitted, when picked up, that he was alone responsible, for he had no business whatever on the cars. This is another accident that would not have occurred had the young man attended strictly to his own duty.

William Gittons, a topman, employed by the Lehigh Valley Coal Company at the head of No. 8 slope, No. 1 colliery, was fatally injured on August 29 by being struck by a runaway mine car. He was removed to the Hazleton hospital, and died on the 6th of September. The investigation of this accident showed that the empty car coming from the breaker ran away from the oiler, who missed the sprag. The car continued toward the No. 8 slope. Deceased, seeing the car coming, crossed from the east to the west side of the head house to throw the lever which puts the safety block in place to prevent the car going down the slope, which he accomplished, and attempted to recross the tracks, when he was struck by the runaway car, which forced him through the side of the head house, where he fell a dis-

tance of seventeen feet to the ground, his left leg was fractured above the knee, together with inflicting internal injuries, with the result as stated. Deceased made a sad mistake in attempting to recross the tracks. He alone was responsible for the act which caused his death.

Peter Meshko, a laborer employed by the Lehigh Coal and Navigation Company at their No. 5 colliery, was instantly killed on August 3 by a rush of coal and rock on the culm bank. Deceased, with four other laborers, was engaged on the surface loading coal from the old culm bank into a breast which had been driven up from the West Primrose gangway. While thus engaged the bank made a rush from the face, carrying the victim down the chute into the breast, where he met instant death, his neck being broken by the fall. He had been warned by the foreman and the other workmen against his reckless and foolhardy methods. He was told to look out just a few minutes before that the bank was going to make a rush, but said that he could take care of himself. This is another instance where a man recklessly threw away his life.

Amon Toralia, chargeman, employed by the Lehigh Coal and Navigation Company, at their No. 5 shaft colliery was, on the 11th day of September, instantly killed by falling down a shaft manway. Deceased, with the contractor, was driving up a new lift on No. 5 shaft, Lansford. As a matter of convenience a pulley was placed on an iron shaft which was supposed to be fastened in the solid rock at one end, while the other end should have been spiked down on the manway prop, but for some unknown reason deceased had neglected to spike it fast to the prop. When the man at the bottom was ready to send up some sharpened steel, he gave the signal by moving the rope on the pulley. When Troalia came to move the pulley on the shaft, he moved the shaft from its bearings, which caused him to lose his balance and to fall headlong down the manway to the bottom, a distance of 188½ feet, where his lifeless body was picked up by the man attending the bottom of the shaft.

John Superata, laborer, employed loading a skip at No. 1 Florey stripping, operated by the estate of A. S. Van Wickle, was instantly killed on October 2 by having been struck by a piece of rock. Deceased, with many others, was working on the stripping loading a skip. When empty skip arrived, the hoisting chains were removed and lowered to the next bench for the loaded skip, when the swinging chains caught a piece of rock weighing possibly 100 pounds, pulled it over the upper bank, causing it to fall to the lower section or bank. The victim was endeavoring to get out of the way, but fell backward, the piece of rock striking him on the face. This was, under the circumstances, an unavoidable accident, for had the unfortunate man been able to retain his feet he would have made good his escape.

John Cheirua, a miner, repairing gangway at Spring tunnel, which is a tributary to No. 9 colliery, Lansford, was instantly killed on October 4 by a rush of coal and rock. Deceased, with two laborers, was engaged preparing to stand relief timbers in a section of gangway. They had secured between two sets of timber, with poles, as is the usual method in such cases, and felt absolutely safe, so much so that they commenced to load the coal off the gangway into a mine car preparatory to putting up the timber, but without any warning, while thus engaged, a rush of coal and rock came upon the poles, breaking them like so many matches and crushing the victim to the floor of the gangway with the aforesaid result. I found, upon examination of the place, that deceased had used every precaution to secure himself and laborers under ordinary circumstances, but the poles used, owing to the span between the gangway timbers, were entirely too light. This is a common mistake among the most practical miners. They use the lighter material for convenience, as no doubt in this case, thoughtlessly, which cost them their lives.

Stephen Sali, laborer, employed at the Milnesville No. 7 stripping, was, on October 6, fatally injured by having been struck by a piece of rock. He had placed a chain about a stone for the purpose of hoisting it into a car when ready with the steam shovel. He stepped back to the shovel and in a few minutes later ran forward to readjust the chain on the stone, when suddenly a piece of rock came rolling down the stripping bank, striking him on the leg, fracturing it and knocking him to the ground, his head striking against a stone. He was immediately removed to the Hazleton hospital, where he succumbed to his injuries twenty-four hours later. This was an unavoidable accident.

John Motshinsky, a laborer employed in the north section, Gamma vein of No. 1 colliery, Cranberry, was instantly killed on October 7 by a fall of clod. Deceased was working with his miner, Jacob Minitz; they had drilled a hole in the clod 2½ feet deep for the purpose of blasting or knocking it down, but before charging the hole with powder, the driver brought in an empty car and they both went down to the gangway to load it. When they had the car nearly loaded they discovered that there was not sufficient coal on the platform or in the chute to finish loading it. The miner remained on the platform loading the car, while the laborer went to the face of breast to put coal in the chute, and while engaged shoveling coal the clod fell upon him with the aforesaid result. In this case the miner alone was responsible for the accident, as he should not have allowed his laborer to work where the place was unsafe except it should be to assist in making it safe.

Kayaton Rihsch, a miner employed at Highland No. 2 colliery, was

fatally injured on October 19 by a fall of rock in a breast. Deceased, with his partner and laborer, was engaged loading a car in the breast when they heard some small pieces fall from the roof. With this warning the men endeavored to get to a place of safety. The younger men succeeded, but when the fall came the deceased was caught, not having reached a point of safety. He was fatally injured and succumbed to his injuries upon reaching home. At the investigation of this accident, Charles Keenan, the victim's partner, testified that he had worked with deceased eight days; that he inquired when he started with him as to the safety of the top, when he replied, "the top was all right," and when they got coal enough under their feet he examined the top every morning and considered it practically safe. The foreman had been in the breast on the previous morning and warned them about examining the top; still, strange to say, that on the morning of the accident, neither of the two miners examined the top before starting to work. Had they done so, this accident would not have occurred, as they would have detected the bad top.

John Stopko, outside laborer, employed cleaning snow from the tracks at Hazle Brook colliery, was instantly killed by having been struck by moving cars on December 5. Deceased was engaged at the north end of the siding leading to No. 4 slope cleaning the tracks. The engineer, as usual, made a flying switch at the breaker and the cars went on towards No. 4 slope. The engine whistle blew, sounding alarm to any one who might have been in the way of the cars. According to an eye witness of the accident, deceased stood facing the cars looking at them coming towards him, and when they were within about thirty feet of him, he stooped in a position to recommence shoveling, when he was knocked down by the moving cars, with the aforesaid result. An examination of the locality, together with the testimony of eye witnesses, showed that had the victim so desired he could have avoided this accident. It was evident that he made no effort to get out of the way of the cars and, indeed, appeared very much as though he intended to commit suicide.

Albert Smith, car oiler, employed at the foot of Highland No. 5 slope, was fatally injured on December 6, while attempting to uncouple moving cars. Deceased was standing on the siding between the loaded and empty track while the loaded trip was moving down towards the bottom of the slope. He saw an extra coupling between the cars, and without speaking to anybody he attempted to take it out, and while thus engaged the cars came together, crushing his right leg between the bumpers of the two cars, inflicting a compound comminuted fracture below the knee. He was immediately removed to the Hazleton hospital, where he succumbed to his injuries later. This young man knew that he was violating the

rules of the colliery. He had been distinctly warned by the workmen and the foreman against coupling or uncoupling cars in any manner. This act was also in direct violation of the Mine Law. Deceased was alone responsible for the accident.

Edward Brennan, a laborer employed at Spring tunnel workings, a tributary to No. 9 colliery at Lansford, was fatally injured on December 13, by having been struck by a loaded mine buggy. He died from his injuries at the Ashland hospital five days later. Deceased, with the miner, James X. Kennedy, was working in the first breast east of the slope on the third lift. The coal is conveyed to the gangway from face to breast by balance plane. Kennedy, the miner and the only eye witness to the accident, testified that they were both standing on the platform after having finished loading the car, when Brennan tipped the buggy standing at the bottom of the plane in a reckless manner, causing the loaded buggy at face of breast to move with a jerk, breaking the rope and the loaded buggy ran down the plane without a balance. Brennan, hearing the car coming, attempted to cross the platform to a place of safety, when he was struck by the runaway buggy. Had he remained where he was he would have been safe. I consider that this was an accident that could have been averted by the unfortunate man himself.

John Barrock, a laborer, employed at Highland No. 5 colliery, was fatally injured on December 16 and died shortly after his admission to the Hazleton hospital. He, with a fellow laborer, was engaged loading a buggy in a counter gangway when a piece of coal fell from the side of the gangway crushing him against the buggy, inflicting the injuries which resulted in his death. A careful examination of the place, together with the testimony of those who were upon the scene and witnessed the accidents, proved conclusively that the miner in charge was alone responsible, he having neglected to make a proper examination of the gangway before starting the laborers to work. Had the miner taken the proper precaution and examined the place, which all miners should do before commencing to work, he would have discovered that the rib of the gangway, owing to a slip, was unsafe, and would not have commenced to work on face of gangway until he had made the rib safe, by either tapping the coal down or propping it, and this man would have been alive to-day, or, in other words, this accident would not have occurred.

Frank Obert, outside laborer, employed at the Lattimer washery, met death by strangulation on December 18, having been caught by machinery on the culm bank. Deceased was found by Angelo Pallermo and Joseph Valliant at about 7.30 A. M., with his arm fast in the cog gearing at the outer end of a conveyor line which was several hundred feet from the washery, with an oil can in his hand, which showed that he had, in direct violation of the Mine Law, attempted

to oil machinery while the same was in motion. This was also a violation of the colliery rules, as he was not the person appointed to do that work. Joseph Valliant testified that he was employed as oiler, with full charge of the machinery. "I found something stopping the machinery; I acquainted the boss, so we both went in search of the trouble. When we reached the end of the conveyor line we found Obert between the wheels, dead. We were very much surprised for he had no business there whatever, as it was my duty to oil the machinery. My orders are to oil the machinery before starting in the morning and at noon while it is stopped." Angelo Pallermo corroborated the testimony given by Valliant. This is another instance where, had the victim attended strictly to his own business he would have been alive to-day. He was alone responsible for the accident.

John Rose, a miner employed in blasting coal on the Lattimer stripping, was fatally injured on December 18 by a fall of coal. He succumbed to his injuries in the ambulance while en route to the hospital. Deceased was engaged tamping a charge of powder into a hole in a bench of coal, when, without warning, a piece of the bench fell from a slip, crushing him into the loose coal, inflicting internal injuries which resulted in his death. The investigation of this accident showed the deceased to be a very careful miner of six years' experience. According to the testimony of witnesses he had taken the usual precaution in sounding the overhanging bench with a miner's drill and declared it to be perfectly safe. The examination of the place showed that the most practical and experienced miner might have been deceived by the unforeseen slip, together with the quantity of water passing through the coal, which prevented him from getting any warning before it fell upon him. Therefore, I consider that under the circumstances this was an unavoidable accident.

Improvements.

The improvements made at the several collieries during the year 1899 were as follows:

The Lehigh Valley Coal Company.

Hazleton No. 1 Colliery.—The third lift tunnel, No. 8 district, was extended southward from the Mammouth to the Gamma vein, a distance of 753 feet, passing through the local anticlinal of the No. 6 basin.

A tunnel eighty two feet long, driven from the Mammouth, north dip, to the Wharton vein, seventh lift.

On the seventh lift, north side of basin, a tunnel was driven 265

feet long, from the Wharton to the Buck Mountain, cutting also the Gamma vein.

The third and fifth lift tunnels to the Buck Mountain were completed early in the year.

The fifth lift south tunnel is being advanced into the Buck Mountain. This tunnel has cut through the Mammoth and Wharton seams.

New second outlet shafts were completed on south side Wharton and north side Primrose veins.

In order to give room for the extension of the strippings, the carpenter and blacksmith shops, oil house and stable were removed to new location east of the breaker; a new flume and steam line was erected over the east stripping, thus rendering available a large block of coal west of No. 1 slope.

A new suction fan was erected on the south side Diamond, ventilating the No. 8 district.

Hazleton No. 2 Colliery.—The fire in the old Stockton dirt banks, which communicated to the Mammoth vein workings, continued throughout the year to burn within the limits mentioned in last year's report, the clay stopping on either side preventing the spread of the fire.

Hazleton No. 3 Colliery.—Three tunnels were driven on second lift from Wharton to Mammoth vein, to rework the south edge of the stripping at the eastern end of the property.

Work was resumed upon the old No. 3 stripping and continued throughout the year, the coal being prepared in the Hazleton shaft breaker.

Hazleton No. 5 Colliery.—The old Laurel Hill strippings were reopened in the spring, and the work of removing the old culm banks and stripping the cover over the Mammoth vein continued during the balance of the year. The coal from this stripping is prepared in the Hazleton shaft breaker.

Hazleton Shaft Colliery.—A new steel head frame was erected over the Hazleton shaft, provision being made for self-dumping cage feeding into a conveyor, the coal being taken from thence up to the tip of the breaker.

Tunnels are being driven north and south on both first and second lifts, the plan being to extend them to the Buck Mountain vein on each side of the basin.

Gangways are being turned in the overlying veins and landing turnout tunnels, with self-acting and endless chain planes constructed for economical handling of cars at the bottom of each level.

Preparations are being made to drain the water from the Hazleton shaft by a bore hole into the old No. 5 workings, back of the No. 40 slope pumping plant.

An unusual experience is recorded in connection with the drainage that possibly may be of interest.

The pumping plant on the eastern end of the Hazleton property is situated in the Wharton vein, taking water under pressure from a dam built in a tunnel between the Wharton and Mammoth vein, as described in last year's report. Back of this dam is collected the water of the entire Hazleton basin, two and one-half miles long, in the old Mammoth and Wharton openings. A six-inch bore hole has been driven to liberate the chamber back of this dam from compressed air, the drainage hole from the shaft connected with this hole and the water allowed to run down it. Several hours after, the level of the water back of the dam had receded twelve feet. Investigation showed that at the western end of the property the water had risen three feet vertical height. This led to the conclusion that a body of compressed air had been formed by the running of this water down the bore hole. The water in the shaft was then turned away from the bore hole, when instantly the compressed air liberated itself, blowing back up through the hole for one and a half hours with immense force. The fact of the water rising over this large area to the height above mentioned would tend to show that an immense quantity of compressed air had accumulated during this short time. The total drop of the water was 295 feet down the bore hole.

Another hole, which I might say had been originally planned, is being drilled to connect the shaft with these workings, thus giving the return for the air.

Spring Mountain Colliery.—This colliery suspended operations in February and was idle the balance of the year.

The provisions of the law were complied with, and the inside slopes permitted to fill with water.

By a joint arrangement with the adjoining operators the water is being kept out of the upper levels.

Spring Brook Colliery.—The strippings have been reopened on the Mammoth vein, and the work was progressing at the close of the year.

The breaker has been strengthened.

Two tunnels are being driven to the Lykens Valley vein, in the No. 2 district.

A new inside slope is being opened out in the Buck Mountain vein, No. 2 district.

G. B. Markle & Co.

Jeddo No. 4.—Two short tunnels connecting Mammoth vein and Wharton have been driven.

Plane 11, Wharton vein, east end, completed.

Locomotive No. 7 added to inside plant.

Separating tanks and drag line to remove culm from breaker water have been erected, and a flume 4,000 feet long constructed to take care of the discharge from settling tanks and some surface water, located along north side of basin.

A 250 horse-power Babcock and Wilcox boiler installed.

One Green Ridge slate picker added to breaker.

Four 100 horse-power Erie City boilers removed from boiler plant.

Auxiliary breaker engine installed and necessary breaker engine house erected.

One automatic mine door installed.

Ebervale.—Tunnel about 400 feet long driven from the Mammoth vein to overlying vein and airway driven up from the overlying vein to the surface, and a ten-foot Crawford & McCrimmon fan installed.

A plane has been erected from the third lift of No. 3 to counter gangway.

One 100 horse-power Erie City boiler added to boiler plant at No. 1.

Sixty-four double shanties and four single shanties have been erected.

Highland No. 5.—Plane D extended 200 feet.

Tunnels J and K driven to complete drainage system.

Compressed air haulage plant installed by the H. K. Porter Co., consisting of necessary pipe, four motors, two 28x30 Norwalk compressors. Compressor house built.

Cameron pump, size 12, operated by air, has been placed in dip gangway.

Plane A has been abandoned and in place thereof a pitch road for motor service constructed.

Slope from second lift, Pink Ash, to bottom of Buck Mountain basin has been commenced.

Second lift gangway on old Pink Ash workings has been opened to face of the old operations.

Three automatic mine doors have been installed.

Highland No. 2.—Mining operations have been resumed at Highland No. 1 and a 16-foot Guibal fan has been reconstructed.

At Highland No. 2 mining resumed at Slope A, first lift and Plane A, first lift.

Tunnel 800 feet long, from second basin of Wharton to third basin, cutting Wharton, has been driven, and airway driven to surface.

Stripping the supposed overlying vein at the western end has been commenced.

Jeddo.—One 100 horse-power Erie City boiler has been added to the water works plant, and a pneumatic pumping system installed.

Air is carried to artesian wells 3,600 feet and the device used is that of the Pneumatic Engineering Company.

An Ingersoll-Sergeant air compressor has been placed at the water works.

The Cross Creek Coal Company.

Drifton Slope No. 2.—At this colliery the pump houses in the second and third levels have been made fire proof and substantial by removing all timber and replacing it by brick pillars, or perfect arched brick rooms. The pumpways are divided into sections by brick arches as a precaution against fire finding its way into pumpways or spreading from the pumpways.

Drifton Slope No. 2 was in operation only for about four months, when breaker was handling Buck Mountain coal, while during the other months No. 1 slope, Drifton, was operated on Mammoth vein exclusively.

In No. 2 slope the extension of air haulage is contemplated from the head of the underground engine plane towards the west of the workings. The second compressor will be located on the surface, and an inside connected air motor with extra tender, carrying the air reservoir, will be used to haul the coal on a level for about 3,000 feet.

By having the motor inside connected, it can be made much more compact, and by having an extra tender to carry the air reservoir, the weight is reduced to almost the weight of a loaded mine car. Curves are taken readily and as the motor only projects eight inches over the rails, it can be run over any gangway without going into expensive remodeling, as is the case by carrying the air reservoir on the motor direct.

A rock plane has been started to develop the secondary basin on the George Moore tract, and another plane will be run in a due west direction from the end of the projected air haulage to the point where the basin commences to dip towards Lattaimer again, and level gangways are started off on the north and south side of the basin.

Eckley, Buck Mountain.—As in previous years, the underground mining was limited to residual mining, while about 30 per cent. of all coal was obtained from strippings, which are now extended eastward in Slope No. 1, south basin, and westward in the Buck Mountain, Slope No. 1 basin. Cuyle & Bro. have the contract at Eckley and are running two shovels. Dick & Co. have the contract at Buck Mountain and have replaced the small shovel, which they found too light for the work, with one of heavier type and are now making good progress.

During the summer the natural water supply failed absolutely at Buck Mountain, and the water had to be hauled in tanks from Eckley. To avoid this, a mile of pipe was laid from an intermediate pump supplying the Eckley water works, direct to Buck Mountain boilers, which gives assurance that there will be no similar trouble in the future.

A fan has been erected at Buck Mountain to provide sufficient ventilation for the east end workings in the old No. 2 slope basin.

Stockton Colliery.—The strippings of the east end have been completed to their practical limits. Two new boilers were erected at the east end in place of the boilers which had been in use since the east strippings were started. They are far in excess of the present requirements, but are expected to supply steam to an underground slope, which has been started, and by which the lower workings in the Wharton will be opened and developed.

The water in the old Sugarloaf workings has raised about five feet during 1899, while the water lying in the Big Vein workings of the Cross Creek Coal Company had been pumped out again during the summer. There is an opening between the Cross Creek Coal Company's workings and the East Sugarloaf workings, which is partly blocked by falls and caves, which allows only a certain percentage of the water to percolate into the Cross Creek Coal Company's mines. A bore hole has been drilled into a section with which this opening communicates, and breaker wash water will be turned into it and the section filled with coal dirt, and it is expected that this will effectually stop any influx of water from the East Sugarloaf workings.

Beaver Meadow Colliery. The new lease referred to in last year's report, giving the Cross Creek Coal Company permanent control of the Lehigh Valley Railroad Company's land at Beaver Meadow, has been completed and extended and it is expected that it will be put in operation about May, 1900. The breaker is to have a capacity of about 1,200 tons per day.

The drainage tunnel to drain the south basins of Slope No. 3 and No. 4, Beaver Meadow, has been commenced. It will be about 5,100 feet long, comprising 600 feet of an open cut, tunnel approaching from Quakake end, and about 4,500 feet of actual tunnel to tap the mine workings. Mr. John Lloyd, formerly mine foreman at Gowen, when the company assumed control of the West Buck Mountain Company's lands, has been awarded the contract, and is progressing favorably with the work at present.

A fan has been erected on the south side basin of Slope No. 4, which is ventilating the upper or Wharton level of the slope.

Water, which had been lying in Slope No. 3, Wharton, a slope abandoned about sixty years ago, has been tapped and lowered to a point which represents a saddle between No. 3 old and No. 4 present workings.

As a matter of interest it may be mentioned that a gangway has been driven in the Wharton vein for a distance of about 1,800 feet, with a pillar of only forty-two feet between it and the No. 3 slope workings. The pillar was sufficiently strong to withstand a water pressure of about 120 feet vertical. Great care was taken in driving

the gangway to avoid any movement in the pillar; the gangway was timbered with full sets, five feet from center to center, and the timber put in as quickly as there was room for it, regardless of the condition of the vein, but with the sole object of strengthening the narrow pillar.

Tunnels have been driven from the present working level, second lift, Temperance basin, to the north, to work the Wharton Slope No. 1 basin, as it will be more economical to handle the coal by Slope No. 2 for the new breaker.

Similarly a tunnel has been driven on the upper level into the so-called No. 8 strippings, which is north of the new breaker site; it develops the coal twenty feet lower than the present stripping level was, and will enable us to take that coal, which had previously been hoisted through No. 1 slope, to No. 2 main hoisting slope also.

Another tunnel has been driven from the northwest gangway, Temperance, to the overlying veins, which developed two splits of Primrose in good condition. Gangways are driven east and west and will form a valuable addition to the coal intended for the new breaker.

A cable way has been contracted for, to handle the stripping coal from the Greenfield East Spoon end. The present working level being about ninety feet above the basin, and the cable way will be used as the means for working out the remaining part of this spoon end.

Another stripping has been commenced in the extreme west end of the north crop of Temperance basin, opposite Coleraine Slope No. 2. Crawford & Dugan have the contract for removing the overlying strata.

An underground plane, 300 feet long, on a 22 degree rise, is being constructed, which will bring the coal from these strippings to the Temperance level.

An air compressor and two air motors, inside connected with tender, have been contracted for with Porter & Co.; they will be used on the first and second levels, supplying the No. 2 main hoisting slope.

Six four-block dwelling houses are in course of erection to accommodate a number of men, necessary on account of the contemplated increased production.

Tomhicken Colliery.—This colliery, which had been idle for five years, was put in operation in the fall of this year. The coal is transported in mine cars, on flats remodled for that purpose, over the D., S. & S. R. R., to Derringer and prepared there for market. This explains why no production is reported, and Tomhicken is not accounted for as a producing colliery.

Derringer and Gowen.—No improvements were made at Derringer.

At Gowen No. 4 a tunnel was driven northward to an overlapped basin. The tunnel was about eighty yards long and has struck the coal in the basin. Gangways are started off east and west.

At Gowen, Slopes No. 1 and No. 3 the old boiler plant was abandoned and an Erie tubular boiler has been installed, half way between the fans, as the steam was required for ventilating purposes only.

The plane mentioned in last year's report to be driven in the west end, Gowen No. 3 workings, has been commenced, the object of which is to tap and develop the overlying veins, which are reaching considerably below the present upper level workings.

Examination of Applicants for Mine Foreman and Assistant Mine Foreman's Certificates.

The annual examination of applicants for certificates of qualification for mine foreman and assistants was held in the Pine street school building, Hazleton, June 22 and 23, 1899.

The board of examiners were W. H. Davies, Inspector; James E. Roderick, superintendent; Robert Munroe and Patrick Kelley, miners.

Fourteen applicants appeared before the board for examination. Of this number four failed, three were disqualified by Article XIII, Section 2 of the Anthracite Mine Law, and the following passed satisfactory examinations and were recommended and received certificates:

Mine Foreman.

Arthur T. Watt, Nesquehoning.
Thomas Morgans, Gowan.
David Spence, Hazleton.
Neal J. McHugh, Gowan.
Joseph James (certificate renewed), Lansford.

Assistant Mine Foreman.

Albion Rossi, Oneida.
James Renshaw, Jeddo.
William Steventon, Nesquehoning.
Patrick Green, Jeddo.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Fifth Anthracite District for 1899.

Names of Collieries.	County.	Name of Operator.	Name of Generel Superintendent.	Postoffice Address.
Cranberry,	Luzerne,	A. Pardee & Co.,	Frank Pardee,	Hazleton, Pa.
East Crystal Ridge,	Luzerne,	A. Pardee & Co.,	Frank Pardee,	Hazleton, Pa.
Drifton No. 1,	Luzerne,	Cross Creek Coal Company.		
Drifton No. 2,	Luzerne,	Cross Creek Coal Company.		
Eckley,	Luzerne,	Cross Creek Coal Company.		
Buck Mountain,	Carbon,	Cross Creek Coal Company.		
Stockton,	Luzerne,	Cross Creek Coal Company.		
Beaver Meadow,	Carbon,	Cross Creek Coal Company.		
Tomhicken,	Luzerne,	Cross Creek Coal Company.		
Derringer,	Luzerne,	Cross Creek Coal Company.		
Gowan,	Luzerne,	Cross Creek Coal Company.		
Colliery No. 1,	Carbon,	The Lehigh Coal and Navigation Company,..	W. D. Zehner,	Lansford, Pa.
	Carbon,	The Lehigh Coal and Navigation Company,..	W. D. Zehner,	Lansford, Pa.
	Carbon,	The Lehigh Coal and Navigation Company,..	W. D. Zehner,	Lansford, Pa.
Colliery No. 4,	Carbon,	The Lehigh Coal and Navigation Company,..	W. D. Zehner,	Lansford, Pa.
Colliery No. 5,	Carbon,	The Lehigh Coal and Navigation Company,..	W. D. Zehner,	Lansford, Pa.
Colliery No. 6,	Carbon,	The Lehigh Coal and Navigation Company,..	W. D. Zehner,	Lansford, Pa.
Colliery No. 9,	Carbon,	The Lehigh Coal and Navigation Company,..	W. D. Zehner,	Lansford, Pa.
Screen building,	Carbon,	The Lehigh Coal and Navigation Company,..	W. D. Zehner,	Lansford, Pa.
Jeddo No. 4 and Ebervale,	Luzerne,	G. B. Markle & Co.,	John Markle,	Jeddo, Pa.
Highland No. 5,	Luzerne,	G. B. Markle & Co.,	John Markle,	Jeddo, Pa.
Highland No. 2,	Luzerne,	G. B. Markle & Co.,	John Markle,	Jeddo, Pa.
Hazleton No. 1,	Luzerne,	The Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Hazleton shaft,	Luzerne,	The Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Spring Mountain,	Luzerne,	The Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Spring Brook,	Carbon,	The Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Milnesville,	Luzerne,	Estate of A. S. VanWickle,	Frank Pardee, Mgr.,	Hazleton, Pa.
Clearene and Evans,	Carbon,	Estate of A. S. VanWickle,	Frank Pardee, Mgr.,	Hazleton, Pa.
Upper Lehigh,	Luzerne,	Upper Lehigh Coal Company,	A. C. Leisenring,	Upper Lehigh, Pa.
Upper Lehigh,	Luzerne,	Upper Lehigh Coal Company,	A. C. Leisenring,	Upper Lehigh, Pa.
Upper Lehigh,	Luzerne,	Upper Lehigh Coal Company,	A. C. Leisenring,	Upper Lehigh, Pa.
Lattimer No. 1,	Luzerne,	Calvin Pardee & Co.,	A. W. Drake,	Lattimer, Pa.
Lattimer No. 3,	Luzerne,	Calvin Pardee & Co.,	A. W. Drake,	Lattimer, Pa.
Lattimer washery,	Luzerne,	Calvin Pardee & Co.,	A. W. Drake,	Lattimer, Pa.
Lattimer strippings,	Luzerne,	Calvin Pardee & Co.,	A. W. Drake,	Lattimer, Pa.
Harwood colliery,	Luzerne,	Calvin Pardee & Co.,	A. W. Drake,	Lattimer, Pa.
Harwood strippings,	Luzerne,	Calvin Pardee & Co.,	A. W. Drake,	Lattimer, Pa.
Sandy Run,	Luzerne,	M. S. Kemmerer & Co.,	Walter Leisenring,	Sandy Run, Pa.
Beaver Brook,	Luzerne,	C. M. Dodson & Co.		
Hazle Brook,	Luzerne,	John S. Wentz & Co.,	John S. Wentz.	
Treskow No. 2,	Carbon,	Lehigh and Wilkes-Barre Coal Company, ..	Wm. J. Richards,	Wilkes-Barre, Pa.
Stockton washery,	Luzerne,	Audenried Coal Company.		
Dusky Diamond,	Luzerne,	Morgans & Arnold.		
Pond Creek,	Luzerne,	Wyoming and Pond Creek Coal Company, ..	A. J. Lathrop.	
Rowe,	Luzerne,	Stauffer & Rowe,	James Rowe,	Beaver Meadow.
Black Ridge No. 4,	Luzerne,	J. F. Barber & Co.		

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Cranberry,					William Gerlach, Sr.
East Crystal Ridge.					
Drifton No. 1,	Luther C. Smith.	Drifton, Pa.,		Benton Shaver,	Jacob Zeisloft.
Drifton No. 2,	Luther C. Smith.	Drifton, Pa.,		William Iles,	Jacob Zeisloft.
Eckley,	Luther C. Smith.	Drifton, Pa.,		David James,	Clarence Hunter.
Buck Mountain,	Luther C. Smith.	Drifton, Pa.,		David James,	Clarence Hunter.
Stockton,	Luther C. Smith.	Drifton, Pa.,		William Donald,	William Shugard.
Beaver Meadow,	Luther C. Smith.	Drifton, Pa.,		Waters Troy,	Daniel McGee.
Tomhicken,	Luther C. Smith.	Drifton, Pa.,		William Jones.	
Derringer,	Luther C. Smith.	Drifton, Pa.,		Daniel Sachs,	Irvin Rape.
Gowan.	Luther C. Smith.	Drifton, Pa.,		Daniel Sachs.	
Colliery No. 1,			Baird Snyder, Jr.,	Morgan O. Morgans,	N. F. Drumheller.
			Baird Snyder, Jr.,	Morgan Jenkins,	N. F. Drumheller.
			Baird Snyder, Jr.,	John Ronemus,	N. F. Drumheller.
Colliery No. 4,			Baird Snyder, Jr.,	Archie Reeves,	Samuel Nevins.
Colliery No. 5,			Baird Snyder, Jr.,	Isaac M. Stickler,	Daniel McMicheal.
Colliery No. 6,			Baird Snyder, Jr.,	John W. Davis,	W. W. Ratcliff.
Colliery No. 9,			Baird Snyder, Jr.,	Andrew Rogan,	Joseph Walton.
Screen building,			Baird Snyder, Jr.,		John Berg.
Jeddo No. 4 and Ebervale,	Samuel Dunkerly, inside	Jeddo, Pa.,	A. P. Goedecke, outside,	[Henry Horrix, / Geo. Minnichbach, ..]	Robert Newton.
Highland No. 5,	do. do.	Jeddo, Pa.,	A. P. Goedecke, outside,	C. C. Hoover,	Louis Kreuger.
Highland No. 2,	do. do.	Jeddo, Pa.,	A. P. Goedecke, outside,	James Lawson,	William Culp.
Hazleton No. 1,	Fred. E. Zerbey,	Hazleton, Pa.,		Frederick Hughes,	William Patten.
Hazleton shaft,	Fred. E. Zerbey,	Hazleton, Pa.,		Caleb Williams,	Jacob Steidle.
Spring Mountain,	Fred. E. Zerbey,	Hazleton, Pa.,		W. F. Hamer,	William Neilson.
Spring Brook,	Fred. E. Zerbey,	Hazleton, Pa.,		William Hughes,	William J. Hays.
Milnesville,	John Harvey,	Milnesville, Pa.,		Samuel Tinner,	John Hebel.
Coleraine and Evans,	W. S. Ayres,	Hazleton, Pa.,		Evan Gibbon,	George H. Smith.
Upper Lehigh,			Geo. W. Wilmot, Jr.,	Thomas Krommas.	
Upper Lehigh,			Geo. W. Wilmot, Jr.,	William Mealing.	
Upper Lehigh,			Geo. W. Wilmot, Jr.,	Henry James.	
Lattimer No. 1,			Calvin Pardee, Jr.,	George Kirshner,	C. W. Hall.
Lattimer No. 3,			Calvin Pardee, Jr.,	George Kirshner,	C. W. Hall.
Lattimer washery,			Calvin Pardee, Jr.,		C. W. Hall.
Harwood colliery,			Calvin Pardee, Jr.,	George Kirshner,	John Dougherty.
Harwood strippings,			Calvin Pardee, Jr.,	Robert Fagan,	John Beach.
Lattimer strippings,			Calvin Pardee, Jr.,	Robert Fagan,	John Beach.
Sandy Run,			Joseph G. Saricks,	George W. Menerley,	John Hauze.
Beaver Brook,	E. L. Bullock,	Audenried, Pa.,		Daniel Reynolds,	Robert G. Russel.
Hazle Brook,	George Richert,	Hazle Brook, Pa.,	E. E. Richert,	Levi Harris.	John Boldish.
Treskow No. 2,	George B. Hadesty,	Audenried, Pa.,	Thomas Mack,	Wm. G. Morgans,	None.
Stockton washery,	John G. Scott,	Hazleton, Pa.,			Samuel Barlet.
Dusky Diamond,	Thomas J. Morgans,	McAdoo, Pa.,		Thomas Morgans,	David Cochran.
Pond Creek,				Jonathan Vipond,	James Rowe.
Rowe,	James Rowe,	Beaver Meadow, Pa.,	James Rowe,	James Rowe,	
Black Ridge No. 4,	A. L. Kerbaugh,	Hazleton, Pa.,		Evan Williams.	

TABLE II—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Fifth Anthracite District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
A. Pardee & Co.												
Cranberry,	Luzerne,	221,116.19	37,548.13	2,961.00	261,626.12	168.1	709	1	2	7,145	37,600	89
East Crystal Ridge,	Luzerne,	49,026.09	9,047.04	656.10	58,730.03	.....	129	1	2	855	.....	28
Total,		270,143.08	46,595.17	3,617.10	320,356.15	168.1	838	2	4	8,000	37,600	117
Cross Creek Coal Co.												
Drifton Nos. 1 and 2,	Luzerne,	217,323.18	39,654.10	8,633.18	265,612.06	265	565	.....	.....	4,404	8,853	70
Eckley,	Luzerne,	206,496.02	27,672.05	1,206.05	235,074.12	250	332	.....	.....	2,454	20,790	37
Buck Mountain,	Carbon,											
Stockton,	Luzerne,	91,495.03	23,911.00	370.00	115,776.03	171	230	.....	.....	1,824	12,382	22
Beaver Meadow,	Carbon,	105,296.09	23,219.14	2,666.12	131,182.15	251	338	.....	.....	2,659	15,236	27
Tomhicken,	Luzerne,	.....	522.00	.....	522.00	.....	123	.....	.....	423	552	7
Derringer and Gowan,	Luzerne,	301,653.06	26,994.18	4,571.05	333,219.09	271	571	.....	.....	5,843	9,918	94
Total,		924,964.18	141,914.07	17,508.00	1,081,387.05	241.6	2,059	5	24	17,607	67,731	257
Lehigh Coal and Navigation Co.												
Colliery No. 1,	Carbon,	284,504.16	26,693.00	2,568.00	313,165.16	220.2	572	.....	.....	1,200	75,000	100
Colliery No. 4,	Carbon,	193,021.10	20,023.00	2,942.10	224,987.00	216.9	383	.....	.....	600	25,250	61
Colliery No. 5,	Carbon,	199,140.05	6,046.00	2,986.05	213,684.10	241.2	328	.....	.....	1,020	13,000	35
Colliery No. 6,	Carbon,	.....	5,512.00	.....	.....	.....	172	.....	.....	300	11,250	6
Colliery No. 9,	Carbon,	221,810.09	8,218.00	3,067.10	233,095.19	210.5	425	.....	.....	180	49,750	74
Screen building,	Carbon,	.....	.....	.....	.....	306.9	326	.....	.....	.....	.....	.....
Total,		898,477.00	74,892.00	11,564.05	984,933.05	233.15	2,206	7	3	3,200	177,550	276

G. B. Markle & Co.												
Jeddo No. 4 and Ebervale,	Luzerne,	483,079.18	40,807.00	1,264.05	525,151.03	215.4	974	.....	.....	7,421	94,455	127
Highland No. 2,	Luzerne,	191,918.09	21,682.00	4,537.08	218,137.17	214.9	457	.....	.....	4,574	36,243	73
Highland No. 5,	Luzerne,	330,968.19	12,556.00	29.16	343,554.06	217.6	588	.....	.....	7,046	19,197	64
Total,		1,005,966.17	75,045.00	5,831.09	1,086,843.06	216	2,019	8	19	19,041	149,895	264
Lehigh Valley Coal Co.												
Hazleton No. 1,	Luzerne,	263,346.13	9,184.00	38,006.18	310,537.11	179.75	881	.....	.....	6,522	51,629	82
Hazleton shaft,	Luzerne,	219,594.18	30,112.00	1,751.03	251,458.01	167.9	726	.....	.....	6,307	29,115	57
Spring Mountain,	Luzerne,	15,875.10	17,664.00	1,998.10	35,538.00	33.4	395	.....	.....	379	2,102	26
Spring Brook,	Carbon,	93,193.09	16,320.00	1,559.00	111,072.09	139.7	381	.....	.....	2,174	6,842	33
Total,		592,010.10	73,280.00	43,315.11	708,606.01	173.65	2,383	7	11	15,382	89,688	198
Calvin Pardee & Co.												
Lattimer No. 1,	Luzerne,	60,816.15	16,301.05	1,086.19	78,204.19	82.5	584	.....	.....	18,253	157,375	27
Lattimer No. 3,	Luzerne,	211,985.00	24,636.01	3,089.17	239,708.18	225.4	.....	.....	.....	.....	.....	25
Lattimer washery,	Luzerne,	7,358.06	9,190.00	.....	16,548.06	66.7	5	.....	.....	.....	.....	.....
Lattimer stripping,	Luzerne,	.....	.....	.....	.....	.....	254	.....	.....	.....	.....	31
Harwood,	Luzerne,	265,470.09	21,325.05	2,005.07	288,801.01	285.7	740	.....	.....	8,400	19,100	61
Total,		554,628.10	71,452.11	6,182.03	623,263.04	220.1	1,583	4	11	26,653	176,475	144
Estate of A. S. VanWickle.												
Milnesville,	Luzerne,	205,773.10	69,360.00	2,132.00	277,265.10	292.8	600	.....	.....	1,095	406,525	65
Coleraine,	Carbon,	321,921.06	49,489.00	2,305.00	373,715.06	250.9	892	.....	.....	4,250	79,775	106
Total,		527,694.16	118,849.00	4,437.00	650,980.16	271.85	1,492	4	11	5,345	486,300	171
Upper Lehigh Coal Co.												
Upper Lehigh,	Luzerne,	179,182.05	33,770.00	2,108.00	215,060.05	185	410	1	1	3,986	1,026	59
C. M. Dodson & Co.												
Beaver Brook,	Luzerne,	152,491.00	25,000.00	10,883.00	188,374.00	179.2	466	.....	2	4,206	2,890	54
M. S. Kemmerer & Co.												
Sand Run,	Luzerne,	81,342.00	13,500.00	2,334.00	97,176.00	203.7	220	1	.....	734	7,231	32
John S. Wentz & Co.												
Hazle Brook,	Luzerne,	87,023.00	8,000.00	847.00	95,870.00	171.4	341	3	.....	1,837	6,158	23
Lehigh and Wilkes-Barre Coal Co.												
Treskow No. 2,	Carbon,	15,690.00	14,600.00	.....	29,690.00	171.4	32	.....	.....	438	824	4
Audenried Coal Co.												
Stockton washery,	Luzerne,	86,198.06	4,660.00	256.00	91,114.06	159.6	135	1	.....	.....	.....	5
Wyoming and Pond Creek Coal Co.												
Pond Creek,	Luzerne,	2,173.00	475.00	235.00	2,883.00	73	40	.....	.....	125	500	5

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
The Lehigh Coal and Land Co.												
Black Ridge No. 4,	Luzerne,	.....	535.00	643.00	1,178.00	65	22	.....	.....	15	2,500	.....
Morgans & Arnold.												
Dusky Diamond,	Luzerne,	2,000.00	277.00	4,000.00	6,277.00	277	18	.....	.....	350	.....	5
Rowe & Stauffer.												
Rowe,	Luzerne,	2,945.00	1,349.00	2,034.00	2,740.00	253	25	.....	.....	253	.....	8

Recapitulation.

A. Pardee & Co.,	Luzerne,	270,142.08	46,595.17	3,617.10	320,356.15	168.1	838	2	4	8,000	37,600	117
Cross Creek Coal Co.,	Luzerne,	921,961.18	141,944.07	17,508.00	1,081,387.05	1,208	2,059	5	24	17,607	67,731	257
Lehigh Coal and Navigation Co.,	Carbon,	898,477.00	74,892.00	11,564.05	984,933.05	1,165.8	2,206	7	3	3,200	177,550	276
G. B. Markle & Co.,	Luzerne,	1,005,966.17	75,045.00	5,831.09	1,086,843.06	647.9	2,019	8	19	19,041	149,895	264
Lehigh Valley Coal Co.,	Luzerne,	592,010.10	73,280.00	43,315.11	708,606.01	520.75	2,382	7	11	15,382	89,888	198
Calvin Pardee & Co.,	Luzerne,	545,628.10	71,452.11	6,182.03	623,263.04	660.3	1,583	4	11	26,653	176,475	144
Estate of A. S. VanWickle,	Luzerne,	527,694.16	118,849.00	4,437.00	650,980.16	543.7	1,492	4	11	5,345	486,300	171
Upper Lehigh Coal Co.,	Luzerne,	179,182.05	33,770.00	2,108.00	215,060.05	185	410	1	1	3,986	1,026	59
C. M. Dodson & Co.,	Luzerne,	152,491.00	25,000.00	10,883.00	188,374.00	179	466	.....	2	4,206	2,890	54
M. S. Kemmerer & Co.,	Luzerne,	81,242.00	13,700.00	2,334.00	97,176.00	203.7	220	1	.....	734	7,231	32
John S. Wentz & Co.,	Luzerne,	87,023.00	8,000.00	847.00	95,870.00	171.4	341	3	.....	1,837	6,158	28
Lehigh and Wilkes-Barre Coal Co.,	Carbon,	15,090.00	14,600.00	.....	29,690.00	171.4	32	.....	.....	438	824	4
Audenried Coal Co.,	Luzerne,	86,198.06	4,660.00	256.00	91,114.06	159.6	135	1	.....	.....	.....	5
Wyoming and Pond Creek Coal Co.,	Luzerne,	2,173.00	475.00	235.00	2,883.00	73	40	.....	.....	125	500	5
The Lehigh Coal and Land Co.,	Luzerne,	.....	535.00	643.00	1,178.00	65	22	.....	.....	15	2,500	.....
Morgans & Arnold,	Luzerne,	2,000.00	277.00	4,000.00	6,277.00	277	19	.....	.....	350	.....	5
Rowe & Stauffer,	Luzerne,	2,945.00	1,349.00	2,034.00	2,740.00	253	28	.....	.....	253	.....	8
Grand total,	.....	5,379,330.10	704,194.15	116,501.18	6,191,027.03	191.5	14,293	43	86	107,172	1,206,368	1,622

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.		Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.							
A. Pardee & Co.															
Cranberry,	Luzerne,	45	1,850	7	1,195	3,045	8	.....	33	3,133	10	18,600	5,400	.....	1
East Crystal Ridge,	Luzerne,	16	840	1	215	1,055	1	.....	5	687	5	4,500	2,200	.....	.....
Total,		61	2,690	8	1,410	4,100	9	.....	38	3,820	15	23,100	7,600	.....	1
Cross Creek Coal Co.															
Drifton Nos. 1 and 2,	Luzerne,	63	4,590	14	700	5,290	4	1	17	1,768	11	7,680	6,912	1	1
Eckley,	Luzerne,	15	1,350	9	1,525	2,875	3	.....	13	1,490	12	5,699	5,129	.....	.....
Buck Mountain,	Carbon,														
Stockton,	Luzerne,	21	1,890	5	450	2,340	2	.....	8	795	8	5,415	4,873	.....	.....
Beaver Meadow,	Carbon,	15	1,350	8	1,000	2,350	3	.....	5	690	9	9,751	8,776	.....	.....
Tomhicken,	Luzerne,	.....	.....	2	200	200	.....	.....	.....	.....	.....	.....	.....	.....	.....
Derringer and Gowan,	Luzerne,	9	810	13	1,300	2,110	5	1	13	1,233	11	6,686	6,017	.....	.....
Total,		123	9,990	51	5,175	15,165	17	2	56	5,976	51	35,231	31,707	1	1
Lehigh Coal and Navigation Co.															
Colliery No. 1,	Carbon,	19	294	15	2,124	2,418	9	.....	18	555	4	4,447	2,223	.....	.....
Colliery No. 4,	Carbon,	16	256	12	2,032	2,288	1	.....	7	517	7	5,480	2,740	.....	.....
Colliery No. 5,	Carbon,	6	105	3	240	345	2	.....	3	95	.....	.....	.....	.....	.....
Colliery No. 6,	Carbon,	6	112	2	600	712	1	.....	4	262	.....	.....	.....	.....	.....
Colliery No. 9,	Carbon,	7	140	10	820	960	4	.....	8	586	.....	.....	.....	.....	.....
Screen building,	Carbon,	.....	.....	14	1,748	1,748	5	.....	43	1,170	.....	.....	.....	1	.....
Total,		54	907	56	7,564	8,471	22	.....	83	3,185	11	9,927	4,963	1	.....

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.					Locomotives.		Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.	Steam.	Air.							
G. B. Markle & Co.															
Jeddo No. 4 and Ebervale,	Luzerne,	.....	.....	28	2,510	2,510	7	.....	36	1,769	1	921	549	.....	2
Highland No. 2,	Luzerne,	39	1,500	1	500	2,000	1	.....	17	786	3	2,763	1,782	.....	1
Highland No. 3,	Luzerne,	15	1,000	2	500	1,500	.....	4	24	1,321	1	921	336	1	2
Total,		54	2,500	31	3,510	6,010	8	4	77	3,876	5	4,605	2,727	1	5
Lehigh Valley Coal Co.															
Hazleton No. 1,	Luzerne,	.....	.....	12	1,500	2,000	2	.....	13	1,600	3	3,660	2,200	.....	2
				2	500										
Hazleton shaft,	Luzerne,	.....	.....	14	2,100	2,600	5	.....	17	2,200	2	7,000	3,100	.....	1
				2	500										
Spring Mountain,	Luzerne,	42	800	.....	.....	.....	6	.....	6	1,000	6	7,500	3,000	.....	.....
Spring Brook,	Carbon,	30	.....	2	300	1,175	2	.....	12	800	5	4,000	2,500	.....	.....
				1	75	1,000	.....	.....							
Total,		72	800	33	4,975	6,775	15	.....	48	5,600	19	22,160	10,800	.....	3
Calvin Pardee & Co.															
Lattimer No. 1,	Luzerne,	24	680	4	310	990	2	.....	6	340	6	5,575	810	.....	1
Lattimer No. 3,	Luzerne,	21	420	2	200	620	3	.....	7	540	1	960	480	1	.....
Lattimer washery,	Luzerne,	.....	.....	.....	.....	.....	.....	.....	2	210	.....	.....	.....	.....	.....
Lattimer stripping,	Luzerne,	.....	.....	5	280	280	4	.....	14	2,400	.....	.....	.....	.....	1
Harwood,	Luzerne,	.....	.....	10	1,500	1,500	2	.....	22	1,080	10	5,815	2,880	1	1
Total,		55	1,100	21	2,290	3,390	11	.....	51	4,570	17	12,350	4,170	2	3
Estate of A. S. VanWickle.															
Milnesville,	Luzerne,	44	681	24	956	1,637	4	.....	28	1,537	5	2,800	800	1	.....
Coleraine,	Carbon,	30	450	25	2,820	3,270	5	.....	43	1,398	9	9,947	4,974	.....	1
Total,		74	1,131	49	3,776	4,907	9	.....	71	2,935	14	12,747	5,774	1	1

Upper Lehigh Coal Co.																
Upper Lehigh,	Luzerne,	74	2,250	5	374	2,624	5	.....	27	1,412	22	16,926	7,600	.....	.....
C. M. Dodson & Co.																
Beaver Brook,	Luzerne,	49	980	8	580	1,560	1	.....	17	1,400	9	7,686	3,873	1	.....
M. S. Kemmerer & Co.																
Sand Run,	Luzerne,	25	1,000	2	200	1,200	2	.....	8	415	3	3,080	3,000	.....	.....
John S. Wentz & Co.																
Hazle Brook,	Luzerne,	18	1,440	4	210	1,650	2	.....	17	400	6	3,000	2,000	.....	.....
Lehigh and Wilkes-Barre Coal Co.																
Treskow No. 2,	Carbon,	42	1,260	1	40	1,300	.....	.....	7	480	4	3,268	.....	.....	.....
Audenried Coal Co.																
Stockton washery,	Luzerne,	8	208	1	30	238	1	.....	13	415	2	2,000	.....	.....	.....
Wyoming and Pond Creek Coal Co.																
Pond Creek,	Luzerne,	.....	.....	1	150	150	.....	.....	2	180	1	450	.....	.....	.....
The Lehigh Coal and Land Co.																
Black Ridge No. 4,	Luzerne,	.....	.....	2	120	120	.....	.....	1	12	2	248	100	.....	.....
Morgans & Arnold.																
Dusky Diamond,	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rowe & Stauffer.																
Rowe,	Luzerne,	.....	.....	1	35	.....	.....	.....	1	35	.....	.....	.....	.....	.....

Recapitulation.

A. Pardee & Co.,	Luzerne,	61	2,690	8	1,410	4,100	9	.....	38	3,820	15	23,100	7,600	.....	1
Cross Creek Coal Co.,	Luzerne,	123	9,900	51	5,175	15,165	17	2	56	5,976	51	35,231	31,707	1	1
Lehigh Coal and Navigation Co.,	Carbon,	54	967	56	7,564	8,471	22	.....	83	2,185	11	9,927	4,963	1	.....
G. B. Markle & Co.,	Luzerne,	74	2,500	31	3,510	6,010	8	4	77	5,876	5	4,605	2,727	1	5
Lehigh Valley Coal Co.,	Luzerne,	72	800	33	4,975	6,775	15	.....	18	5,600	19	22,160	10,800	.....	3
Calvin Pardee & Co.,	Luzerne,	55	1,100	21	2,290	3,390	11	.....	51	4,570	17	12,350	4,170	2	3
Estate of A. S. VanWickle,	Luzerne,	74	1,131	49	3,776	4,907	9	.....	71	2,935	11	12,747	5,774	1	1
Upper Lehigh Coal Co.,	Luzerne,	74	2,250	5	374	2,624	5	.....	27	1,412	22	16,926	7,600	.....	.....
C. M. Dodson & Co.,	Luzerne,	49	980	8	580	1,560	1	.....	17	1,400	9	7,686	3,873	1	.....
M. S. Kemmerer & Co.,	Luzerne,	25	1,000	2	200	1,200	2	.....	8	415	3	3,080	3,000	.....	.....
John S. Wentz & Co.,	Luzerne,	18	1,440	4	210	1,650	2	.....	17	400	6	3,000	2,000	.....	.....
Lehigh and Wilkes-Barre Coal Co.,	Carbon,	42	1,260	1	40	1,300	.....	.....	7	480	4	3,268	.....	.....	.....
Audenried Coal Co.,	Luzerne,	8	208	1	30	238	1	.....	13	415	2	2,000	.....	.....	.....
Wyoming and Pond Creek Coal Co.,	Luzerne,	.....	.....	1	150	150	.....	.....	2	180	1	450	.....	.....	.....
The Lehigh Coal and Land Co.,	Luzerne,	.....	.....	2	120	120	.....	.....	1	12	2	248	100	.....	.....
Morgans & Arnold,	Luzerne,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Rowe & Stauffer,	Luzerne,	.....	.....	1	35	.....	.....	.....	1	35	.....	.....	.....	.....	.....
Grand total,	.....	709	26,256	274	30,439	57,660	102	6	517	34,711	181	156,778	84,314	7	14

TABLE III—Showing the number of each class of employes at each colliery in the Fifth Anthracite District during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
A. Pardee & Co.																
Cranberry and East Crystal Ridge,	3	7	275	139	64	31	56	575	1	29	33	52	2	146	263	838
The Cross Creek Coal Co.																
Drifton Nos. 1 and 2,	3	1	131	22	25	7	117	306	1	.....	18	109	12	119	259	565
Eckley and Buck Mountain,	1	.....	87	7	15	8	49	167	1	.....	24	65	1	74	165	332
Stockton,	1	.....	38	2	8	4	39	92	1	.....	14	53	1	69	138	230
Beaver Meadow,	1	.....	77	16	9	1	43	147	1	.....	15	97	1	77	191	338
Tomhicken,	1	.....	13	4	2	1	.....	21	.....	.....	.....	.....	.....	2	2	23
Derringer and Gowan,	3	2	184	41	39	14	94	377	1	.....	18	80	1	94	194	571
Total,	10	3	530	92	98	35	242	1,110	5	.....	89	404	16	435	949	2,059
Lehigh Coal and Navigation Co.																
Colliery No. 1,	3	7	124	48	32	15	102	331	1	10	41	85	1	103	241	572
Colliery No. 4,	1	3	50	38	23	8	99	222	1	4	21	83	.....	52	161	383
Colliery No. 5,	1	3	45	29	11	6	94	189	1	6	14	65	.....	53	139	328
Colliery No. 6,	1	2	41	11	9	1	83	148	1	6	8	.....	.....	9	24	172
Colliery No. 9,	2	2	74	62	18	3	92	253	1	7	16	76	.....	72	172	425
Screen building,	.....	.....	.....	.....	.....	.....	.....	.....	1	11	25	187	.....	102	326	326
Total,	8	17	334	188	93	33	470	1,143	6	44	125	496	1	391	1,063	2,206

G. B. Markle & Co.																
Jeddo No. 4 and Ebervale,	5	.....	277	187	75	18	136	698	1	23	27	101	9	115	276	974
Highland No. 2,	2	.....	129	36	28	11	83	289	1	16	23	65	8	55	108	457
Highland No. 5,	4	1	137	89	39	10	88	368	1	18	19	84	8	90	220	588
Total,	11	1	543	312	142	39	307	1,355	3	57	69	250	25	260	660	2,019
Lehigh Valley Coal Co.																
Hazleton No. 1,	1	3	240	180	47	5	113	590	1	18	20	131	2	119	291	881
Hazleton shaft,	1	3	156	60	9	.....	95	325	1	14	16	70	2	298	401	726
Spring Mountain,	1	1	135	23	29	4	19	212	1	9	16	80	1	76	183	395
Spring Brook,	1	1	88	29	12	.....	64	195	1	8	19	70	1	87	186	381
Total and average,	4	8	619	282	97	9	291	1,322	4	49	71	351	6	580	1,061	2,383
Calvin Pardee & Co.																
Lattimer No. 1,	1	7	71	115	15	7	28	244	2	46	26	116	6	144	340	584
Lattimer No. 3,																
Lattimer washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	1	.....	.....	.....	3	5	5
Lattimer stripping,	.....	.....	5	25	5	.....	6	41	11	8	24	.....	.....	170	213	254
Harwood,	1	6	210	115	44	8	56	439	1	19	20	110	4	126	280	720
Harwood stripping,	.....	.....	3	15	2	.....	.....	20	.....	.....	.....	.....	.....	.....	.....	20
Total,	2	13	289	270	66	15	90	745	15	74	70	226	10	443	838	1,583
Estate of A. S. Van Wickle.																
Milnesville,	1	.....	25	42	18	2	40	128	1	19	26	81	7	338	472	600
Coleraine and Evans,	5	1	205	176	33	5	32	457	1	26	48	83	8	269	435	892
Total,	6	1	230	218	51	7	72	585	2	45	74	164	15	607	907	1,492
Upper Lehigh Coal Co.																
Upper Lehigh,	3	.....	86	65	28	12	16	209	1	9	33	73	5	80	201	410
C. M. Dodson & Co.																
Beaver Brook,	1	1	88	74	20	12	49	255	1	13	23	66	5	103	211	466
M. S. Kemmerer & Co.																
Sandy Run,	2	.....	42	44	10	4	6	108	2	4	18	41	7	40	112	220
John S. Wentz & Co.																
Hazle Brook,	2	.....	85	20	21	14	30	172	2	9	17	76	7	58	169	341
Lehigh and Wilkes-Barre Coal Co.																
Tresckow No. 2,	1	.....	8	4	2	1	16	32	.....	.....	.....	.....	.....	.....	.....	32
Audenried Coal Co.																
Stockton washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	2	6	42	2	82	135	135
Wyoming and Pond Creek Coal Co.																
Pond Creek,	1	.....	6	12	2	.....	.....	21	1	2	3	10	2	1	19	40

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
The Lehigh Coal and Land Co.																
Black Ridge No. 4,	1	.....	3	2	.....	.....	2	8	1	1	2	5	.....	5	14	22
Morgans & Arnold																
Dusky Diamond,	1	.....	4	5	1	.....	.....	11	.....	.....	1	1	1	5	8	19
Rowe & Stauffer																
Rowe,	1	.....	5	6	3	.....	.....	15	.....	1	1	5	.....	6	13	28

Recapitulation.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
A. Pardee & Co.,	3	7	275	139	64	31	56	575	1	29	33	52	2	146	263	838
The Cross Creek Coal Co.,	10	3	530	92	98	35	242	1,110	5	.....	89	404	16	435	949	2,059
Lehigh Coal and Navigation Co.,	8	17	334	188	93	33	470	1,143	6	44	125	496	1	391	1,063	2,206
G. B. Markle & Co.,	11	1	543	312	142	39	307	1,355	3	57	69	250	25	260	664	2,019
Lehigh Valley Coal Co.,	4	3	619	282	97	9	291	1,322	4	49	71	351	6	580	1,061	2,383
Calvin Pardee & Co.,	2	13	289	270	66	15	90	745	15	74	70	226	10	443	838	1,583
Estate of A. S. Van Wickle,	6	1	230	218	51	7	72	585	2	45	74	164	15	607	907	1,492
Upper Lehigh Coal Co.,	3	.....	86	65	28	12	16	209	1	9	33	73	5	80	201	410
C. M. Dodson & Co.,	1	1	88	74	20	12	49	255	1	13	23	66	5	103	211	466
M. S. Kemmerer & Co.,	2	.....	42	44	10	4	6	108	2	4	18	41	7	40	112	220
John S. Wentz & Co.,	2	.....	85	20	21	14	30	172	2	9	17	76	7	58	169	341
Lehigh and Wilkes-Barre Coal Co.,	1	.....	8	4	2	1	16	32	.....	.....	.....	.....	.....	.....	.....	32
Audenried Coal Co.,	.....	.....	.....	.....	.....	.....	.....	.....	1	2	6	42	2	82	135	135
Wyoming and Pond Creek Coal Co.,	1	.....	6	12	2	.....	.....	21	1	2	3	10	2	1	19	40
Lehigh Coal and Land Co.,	1	.....	3	2	.....	.....	2	8	1	1	2	5	.....	5	14	22
Morgans & Arnold,	1	.....	4	5	1	.....	.....	11	.....	.....	1	1	1	5	8	19
Rowe & Stauffer,	1	.....	5	6	3	.....	.....	15	.....	1	1	5	.....	6	13	28
Total and average,	57	51	3,147	1,733	698	212	1,647	7,666	45	339	635	2,262	104	3,242	6,627	14,293

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
A. Pardee & Co.													
Cranberry and East Crystal Ridge,	14.5	9.4	8.85	8.05	10.45	15.25	17.95	14.9	17.55	17.55	15.55	18.1	168.1
The Cross Creek Coal Co.													
Drifton Nos. 1 and 2,	23	15	20	16	21	22	23	27	24	25	25	24	265
Eckley and Buck Mountain,	18	13	19	20	23	22	18	25	23	24	23	22	250
Stockton,	10	7	17	18	16	14	14	20	14	16	13	12	171
Beaver Meadow,	18	12	19	19	23	23	20	23	24	24	22	24	251
Tomhicken,													
Derringer and Gowan,	21	14	23	20	23	23	21	25	23	26	27	25	271
Total and average,	18	12.2	19.4	18.6	21.2	20.2	19.2	24	21.6	23	22	21.4	241.6
Lehigh Coal and Navigation Co.													
Colliery No. 1,	18.55	12.9	20.2	15.5	16.3	17.0	17.5	22	18.35	19.7	22.2	20	220.2
Colliery No. 4,	18.95	13.25	19.25	16.9	15.2	16.6	17.3	21.1	17.2	19	21.1	21.05	216.9
Colliery No. 5,	18.85	13.25	20.7	15.6	16.7	15.7	16.6	19.35	17.4	18.2	20.1	18.8	211.25
Colliery No. 6,													
Colliery No. 9,	17.3	11.55	19.8	17	17.25	16.1	17.8	20.4	17.3	18.6	20.5	20.7	210.5
Screen building,	25.25	17.45	23.65	20.6	24.1	25.3	26.05	31	27.2	28.75	28.2	29.35	306.9
Total and average,	19.78	13.68	20.72	17.12	17.91	18.14	19.05	22.73	19.49	20.85	22.42	21.98	233.15

G. B. Markle & Co.													
Jeddo No. 4 and Ebervale,	17	11	15	11	11	21	23	23	20	21	20	22	215
Highland No. 2,	16	13	16	11	11	21	19	22	20	23	22	21	218
Highland No. 5,	16	13	15	11	12	21	22	23	21	22	21	21	215
Total and average,	16.3	12.3	15.4	11	11.3	21	21.3	22.4	20.3	22	21	21.4	216
Lehigh Valley Coal Co.													
Hazleton No. 1,	18.95	12.4	8.8	8.7	12.4	13.7	18.5	15	17.1	18.6	16.1	19.5	179.95
Hazleton shaft,	13.5	9.3	8.2	8.5	10.7	12	17.3	13.6	16.9	18.7	17.6	21.6	167.9
Spring Mountain,	18.4	10.2	4.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	33.4
Spring Brook,	12.3	5.9	6.6	7.8	11.6	14.1	15.2	11.3	13.4	13.6	12.7	15.2	139.7
Total and average,	15.78	9.45	7.1	8.3	11.56	13.27	17	13.3	15.8	16.96	15.46	18.76	173.65
Calvin Pardee & Co.													
Lattimer No. 1,	7.5	.....	.....	24.4	25.6	25	.....	.....	.....	.....	.....	.....	82.5
Lattimer No. 3,	23.9	17.2	26.2	.....	.....	.....	25.9	27.8	26.1	26.8	26.8	24.7	225.4
Lattimer washery,	.....	.....	.....	.....	.....	.....	9.65	1	6.9	7.7	20.2	21.25	66.7
Lattimer stripping,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Harwood,	24.5	16.7	22.2	22.5	26.6	25.5	24.3	25.3	25.8	24.6	23.9	23.8	285.7
Harwood stripping,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total and average,	18.63	16.95	24.2	23.45	26.1	25.25	19.95	18.03	19.6	19.7	23.62	23.25	220.1
Estate of A. S. Van Wickle.													
Milnesville,	24.5	18.6	25.3	24.3	26.6	25.6	24.5	26.6	25.5	21.2	25.6	24.5	292.8
Coleraine and Evans,	20.1	16.4	19.7	19	15.7	23.2	24.2	23	23	22.5	22.9	21.2	260.9
Total and average,	22.3	17.5	22.5	21.65	21.15	24.4	24.35	24.8	24.25	21.85	24.25	22.85	271.85
Uppper Lehigh Coal Co.													
Upper Lehigh,	12.6	11.4	11.3	14.1	12.1	14.7	15.3	14.9	18.6	19.4	18.8	21.8	185
C. M. Dodson & Co.													
Beaver Brook,	17	9.6	12	11.1	13.1	14.5	16.3	16.1	16.4	18	17.2	17.9	179.2
M. S. Kemmerer & Co.													
Sandy Run,	14.4	14.6	16.1	14.15	10.8	16.2	18.9	20.3	18.9	20.7	18.9	19.8	203.75
John S. Wentz & Co.													
Hazle Brook,	15.2	9.5	8.65	8.8	10.2	13.5	18.7	14.45	19.1	18.1	16.35	19	171.4
Lehigh and Wilkes-Barre Coal Co.													
Tresckow No. 2,	15.2	9.5	8.85	8.6	10.2	13.5	18.7	14.45	19.1	19	16.35	18.15	171.4
Audenried Coal Co.													
Stockton washery,	11.6	12.3	5.5	5.4	12.2	14.4	10.7	16.7	17	17.2	16.4	20.2	159.6
Wyoming and Pond Creek Coal Co.													
Pond Creek,	15	11	20	6	5	8	2	.....	2	.....	1	3	73
The Lehigh Coal and Land Co.													
Black Ridge No. 4,	.....	.....	.....	12	2	1.4	15.3	2	3	14.3	15	.....	65

TABLE III.—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Morgans & Arnold.													
Dusky Diamond.	23	21	25	22	23	26	20	21	24	26	24	22	277
Rowe & Stauffer.													
Rowe.	25	23	25	24	21	20	21	20	7	18	25	24	253

Recapitulation.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
A. Pardee & Co.,	14.5	9.4	8.85	8.05	10.45	15.25	17.95	14.9	17.55	17.55	15.55	18.1	168.1
The Cross Creek Coal Co.,	18	12.2	19.4	18.6	21.2	20.2	19.2	24	21.6	23	22	21.4	241.6
Lehigh Coal and Navigation Co.,	19.78	13.68	20.72	17.12	17.91	18.14	19.05	22.73	19.49	20.85	22.42	21.98	233.15
G. B. Markle & Co.,	16.3	12.3	15.4	11	11.3	21	21.3	22.4	20.3	22	21	21.4	216
Lehigh Valley Coal Co.,	15.78	9.45	7.1	8.3	11.56	13.27	17	13.3	15.8	16.96	15.46	18.76	173.65
Calvin Pardee & Co.,	18.63	16.95	24.2	23.45	26.1	25.25	19.95	18.03	19.6	19.7	23.63	23.25	220.1
Estate of A. S. Van Wickle,	22.3	17.5	22.5	21.65	21.15	24.4	24.35	24.8	24.25	21.85	24.25	22.85	271.85
Upper Lehigh Coal Co.,	12.6	11.4	11.3	14.1	12.1	14.7	15.3	14.9	18.6	19.4	18.8	21.8	185
C. M. Dodson & Co.,	17	9.6	12	11.1	13.1	14.5	16.3	16.1	16.4	18	17.2	17.9	179.2
M. S. Kemmerer & Co.,	14.4	14.6	16.1	14.15	10.8	16.2	18.9	20.3	18.9	20.7	18.9	19.8	203.75
John S. Wentz & Co.,	15.2	9.5	8.65	8.8	10.2	13.5	18.7	14.45	19.1	18.1	16.35	19	171.4
Lehigh and Wilkes-Barre Coal Co.,	15.2	9.5	8.85	8.6	10.2	13.5	18.7	14.45	19.1	19	16.35	18.15	171.4
Audenried Coal Co.,	11.6	12.3	5.5	5.4	12.2	14.4	10.7	16.7	17	17.2	16.4	20.2	159.6
Wyoming and Pond Creek Coal Co.,	15	11	20	6	5	8	2	.....	2	.....	1	3	73
Lehigh Coal and Land Co.,	.....	.....	.....	12	2	1.4	15.3	2	2	14.3	15	.....	65
Morgans & Arnold,	23	21	25	22	23	26	20	21	24	26	24	22	277
Rowe & Stauffer,	25	23	25	24	21	20	21	20	7	18	25	24	253
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	191.5

TABLE IV—List of fatal accidents that occurred in and about the mines of the Fifth Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 12,	Andrew Gowity,	Slate picker,	51	M.	1	....	Spring Brook,	Carbon,	Instantly killed by a falling chute in breaker.
20,	Andrew Butsko,	Laborer,	18	S.	....	....	Hazle Brook,	Luzerne,	Instantly killed; crushed between a railroad car and a platform under the breaker.
28,	John Moody,	Laborer,	23	S.	....	....	Cranberry,	Luzerne,	Instantly killed by a fall of coal on slope.
30,	Anthony Reilly,	Foreman,	46	M.	....	1	Milnesville,	Luzerne,	Fatally injured; struck by a piece of rock flying from a blast.
Feb. 3,	John Hoffman,	Patcher,	16	S.	....	....	Eckley No. 10 stripping,	Luzerne,	Instantly killed; crushed between a derailed mine car and the rib near the entrance to the drift.
17,	Joseph Logan,	Miner,	57	M.	1	2	Sandy Run,	Luzerne,	Instantly killed by the caving in of a breast.
18,	John McCahill,	Driver,	28	M.	1	2	Highland No. 5,	Luzerne,	Fatally injured; supposed to have been kicked by a mule; he died at the hospital.
Mar. 1,	John P. Thomas,	Miner,	51	M.	1	2	Lansford No. 9,	Carbon,	Instantly killed by an explosion of dynamite while he was placing a charge of powder on a lump in the battery the explosion occurred by a spark from his lamp entering the powder.
3,	John Ondrosie,	Miner,	50	M.	1	4	Harwood No. 4,	Luzerne,	Fatally injured by a fall of top slate in a breast.
11,	John Thomas,	Miner,	37	M.	1	4	Nesquehoning tunnel, No. 1.	Carbon,	Instantly killed by a fall of top rock in a breast.
16,	Patrick O'Donnell,	Hitcher,	35	S.	....	....	Stockton washery,	Luzerne,	Fatally injured by falling from a trestle forty feet; died from injuries eleven days later.
16,	William Plancus,	Oiler,	18	S.	....	....	Spring Brook,	Carbon,	Instantly killed by machinery on the breaker.
16,	Michael Daley,	Loader,	20	S.	....	....	Lansford No. 6,	Carbon,	Smothered in loose coal, due to the crushing of the pillar and his own foolhardiness.

April	1,	Daniel Marley,	Mine foreman,	36	M.	1	5	Highland No. 5,	Luzerne,	Fatally injured; struck by a piece of rock while standing on slope.
	18,	James Laroc,	Miner,	47	M.	1	4	Hazleton No. 3,	Luzerne,	Instantly killed by a fall of coal in a breast while they were undermining the top bench.
	18,	Lawrence Patrole,	Miner,	30	M.	1	2	Hazleton No. 3,	Luzerne,	
May	9,	Andrew Cherba,	Driver,	30	S.	....	....	Hazle Brook,	Luzerne,	Instantly killed; squeezed between a mine car and a mule on the stripping.
	9,	Mathew Bell,	Miner,	41	M.	1	5	Drifton No. 1,	Luzerne,	Fatally injured by premature blast, and died at hospital.
	25,	John Degotis,	Miner,	24	....	....	....	Harwood No. 5,	Luzerne,	Instantly killed by a fall of clod in a breast.
June	8,	John Horrish,	Miner,	24	S.	....	....	Upper Lehigh,	Luzerne,	Instantly killed by fall of clod, shot having knocked out props supporting same.
	9,	Joseph Ulisino,	Miner,	33	S.	....	....	Hazleton No. 3,	Luzerne,	Instantly killed by a fall of top rock in Primrose vein breast.
	12,	John Lesko,	Miner,	37	M.	1	2	Jeddo No. 4,	Luzerne,	Fatally injured by a fall of rock.
July	11,	Fred. S. Smith,	Loader boss,	24	M.	1	....	Milnesville,	Luzerne,	Instantly killed; head crushed between railroad cars and breaker timber.
	13,	John Gallagher,	Miner,	30	S.	....	....	Jeddo No. 4,	Luzerne,	Fatally injured by fall of clod in cross heading.
	17,	Mike Supko,	Miner,	29	M.	1	2	Jeddo No. 4,	Luzerne,	Fatally injured by a fall of rock.
	19,	W. H. Brommer,	Carpenter,	65	M.	1	....	Derringer,	Luzerne,	Instantly killed by falling from roof of shed in the general supply room at the mines.
	27,	Charles Eisenman,	Miner,	41	M.	1	7	Derringer,	Luzerne,	Fatally injured by an explosion; these two men were burned so that death resulted inside of twenty-four hours. This was due to their own carelessness in entering an abandoned breast with naked lights.
	27,	Maurice Schlauch,	Miner,	26	M.	1	3	Derringer,	Luzerne,	
	29,	Daniel Horn,	Laborer,	44	M.	1	3	Hazleton shaft,	Luzerne,	Fatally injured by falling under a moving train while attempting to set a switch.
Aug.	3,	Peter Meshko,	Laborer,	21	S.	....	....	Lansford No. 5,	Carbon,	Instantly killed; carried by a rush of coal and slate from culm bank on the surface into a breast.
	29,	William Gittons,	Topman,	55	M.	1	2	Hazleton No. 1,	Luzerne,	Fatally injured, being crushed through the head house by a runaway car becoming derailed.
Sept.	11,	Amon Toralia,	Chargeman,	28	S.	....	....	Lansford No. 5,	Carbon,	Instantly killed by falling down a vertical manway.
Oct.	2,	John Superata,	Laborer,	47	M.	1	....	Coleraine,	Carbon,	Instantly killed; struck by a piece of rock.
	4,	John Cheirua,	Laborer,	30	M.	1	3	Spring tunnel,	Carbon,	Instantly killed by a rush of coal and rock on the gangway.
	5,	Stephen Sali,	Laborer,	26	S.	....	....	Milnesville,	Luzerne,	Fatally injured; struck by a rock that came rolling down the stripping bank; he died in twenty-four hours.
	6,	John Motshinsky,	Laborer,	28	S.	....	....	Cranberry,	Luzerne,	Fatally injured; caused by a fall of clod due to neglect to properly place props and to his inexperience.
	18,	Kayaton Rinisch,	Miner,	50	M.	1	6	Highland No. 2,	Luzerne,	Fatally injured by a fall of rock in a breast; died after removal to his home.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Dec. 5,	John Stopko, ...	Laborer, ...	50	S.	....	....	Hazle Brook, ...	Luzerne, ...	Instantly killed; struck by a moving trip of mine cars on the surface.
6,	Albert Smith, ...	Car oiler, ...	14	S.	....	....	Highland No. 5, ...	Luzerne, ...	Fatally injured; leg crushed between mine cars while attempting to uncouple them; died at the Hazleton hospital.
13,	Edward Brennan, ...	Laborer, ...	42	M.	1	4	Spring tunnel, tributary to Lansford No. 9.	Carbon, ...	Fatally injured; struck by a runaway buggy while he was trying to get to a place of safety.
16,	John Barrock, ...	Laborer, ...	28	M.	1	....	Highland No. 5, ...	Luzerne, ...	Fatally injured; he was loading a buggy in counter gangway when a fall of coal coming from the side of the gangway crushed him against the car; he died upon reaching the hospital.
18,	John Rose, ...	Miner, ...	42	M.	1	3	Lattimer stripping, ...	Luzerne, ...	Fatally injured and died in the ambulance while en route to the Hazleton hospital; this accident was due to the reckless method of charging and tamping powder into a hole by the miner himself.
18,	Frank Obert, ...	Outside laborer, ..	22	S.	....	....	Lattimer washery, ...	Luzerne, ...	Instantly killed by being caught in the cog gearing of a conveyor line on the culm bank while attempting to oil moving machinery; he was not the oiler and had no business there whatever, and was acting in direct violation of the Mine Law.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Fifth Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 12,	William Geswearl,	Slate picker,	44	M.	Spring Brook,	Carbon,	Severely injured by a falling chute in breaker.
13,	Calvin Ulshafer,	Engineer,	23	M.	Gowan,	Luzerne,	Scalded by locomotive becoming derailed and breaking steam pipe.
20,	Mike Sakurda,	Driver,	18	S.	Lattimer stripping,	Luzerne,	Leg fractured; struck by a piece of flying timber.
21,	Joseph Evangellisto,	Jig runner,	17	S.	Lattimer No. 3 breaker,	Luzerne,	Leg fractured while trying to throw a moving belt off a pulley.
23,	Adam Miller,	Stable boss,	27	S.	Hazleton No. 1,	Luzerne,	Leg fractured; struck by coal flying from a runaway car.
23,	William Rupert,	Driver,	18	S.	Hazleton No. 3,	Luzerne,	Foot crushed between bumpers of cars.
25,	Peter Kilsie,	Laborer,	40	M.	Beaver Brook,	Luzerne,	Leg fractured; while shoveling coal on stripping a piece struck his leg.
26,	Andrew Mehouchak,	Laborer,	24	S.	Beaver Meadow,	Carbon,	Arm fractured; struck by a piece of coal rolling down the bank.
27,	Ambrose Drasher,	Laborer,	26	S.	Milnesville,	Luzerne,	Seriously injured by premature blast on strippings.
Feb. 1,	Ralph Embroic,	Jack man,	29	S.	Lattimer No. 1,	Luzerne,	Leg fractured; struck by a piece of rock that rolled down the bank.
19,	Joseph Patrutz,	Pump man,	20	S.	Drifton No. 2,	Luzerne,	Arm fractured; struck by a moving air motor.
24,	Anthony Plopius, Jr.,	Laborer,	18	S.	Hazleton No. 5,	Luzerne,	Arm fractured; caught between rib of tunnel and derailed mine car.
28,	Ernest Fry,	Slate picker,	15	S.	Jeddo No. 4,	Luzerne,	Leg fractured by jumping down from lump-coal chute on to pea coal bank.
Mar. 8,	John Mehalko,	Laborer,	30	M.	Coleraine,	Carbon,	Skull fractured; struck by gate of mine car while unloading timber.
11,	Mike Zizats,	Driver,	20	S.	Beaver Meadow,	Carbon,	Arm fractured; kicked by a mule.
13,	George Vudoshin,	Laborer,	20	S.	Beaver Meadow,	Carbon,	Leg fractured by a fall of coal.
15,	John Palsko,	Miner,	30	S.	Evans,	Carbon,	Leg fractured by falling while his leg was fast between two lumps of coal.
22,	Andrew Demko,	Miner,	35	M.	Milnesville,	Luzerne,	Leg fractured by being struck by a piece of coal flying from a shot.
25,	Edward Stone,	Fire boss,	52	M.	Coleraine,	Carbon,	Internally injured by a fall of rock on the gangway.
28,	William Daley,	Driver,	20	S.	Spring Mountain No. 1,	Luzerne,	Collar bone fractured; run over by a mine car.
April 6,	Andrew Gindo,	Miner,	25	S.	East Crystal Ridge,	Luzerne,	Skull fractured; struck by a piece of coal while walking up a chute.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
April 21,	Gaetano D'Blassi,	Laborer,	27	S.	Lattimer,	Luzerne,	Eye injured; struck by a blasting tube.
29,	Michael Berosh,	Miner,	44	M.	Buck Mt. tunnel No. 2,	Carbon,	Face and neck injured by a premature blast.
May 3,	Marzello Pasquin,	Miner,	28	M.	Gowan No. 4,	Luzerne,	Hands and face burned by an explosion of gas.
3,	Joseph Fezura,	Laborer,	25	S.	Gowan No. 4,	Luzerne,	Hands and face burned by an explosion of gas.
4,	Roger McMonigle,	Miner,	30	S.	Lansford No. 4,	Carbon,	Leg fractured by a fall of coal from rib of breast.
23,	John Cronick,	Miner,	35	M.	Highland No. 5,	Luzerne,	Skull fractured by premature blast.
26,	John McGinley,	Miner,	25	S.	Highland No. 5,	Luzerne,	Leg fractured; struck by a piece of coal while running from a shot.
30,	Charles McHugh,	Laborer,	45	S.	Coleraine,	Carbon,	Skull fractured; struck by a derrick chain.
June 16,	Albert Stenko,	Laborer,	23	S.	Evans,	Carbon,	Foot crushed by a fall of clod.
20,	Herman Grossman,	Miner,	38	M.	Highland No. 5,	Luzerne,	Pelvis and thigh injured; squeezed between mine cars.
20,	James Boyle,	Driver,	17	S.	Highland No. 2,	Luzerne,	Severely injured by being squeezed between mine cars.
23,	Albert Smith,	Car runner,	20	S.	Highland No. 5,	Luzerne,	Seriously injured; crushed between a derailed mine car and rib of gangway.
July 3,	Paul Ulk,	Miner,	49	M.	Cranberry,	Luzerne,	Ribs and shoulder fractured; run over by loaded buggy.
10,	Theodore Seppi,	Miner,	41	M.	Gowan No. 4,	Luzerne,	Head and hands injured; struck by coal flying from a blast.
10,	Andrew Koaletz,	Miner,	38	M.	Gowan No. 4,	Luzerne,	Head and hands injured; struck by coal flying from a blast.
15,	Joseph Greagor,	Laborer,	21	S.	Highland No. 5,	Luzerne,	Seriously injured by a fall of coal in gangway.
15,	John Cabbage,	Laborer,	26	M.	Highland No. 5,	Luzerne,	Seriously injured by a fall of coal in gangway.
17,	Michael Dinion,	Sta. engineer,	32	M.	Eckley,	Luzerne,	Leg crushed by being run over by a mine car.
21,	Jesse Comford,	S. S. engineer,	37	M.	Buck Mountain stripping,	Carbon,	Arm fractured; struck by a piece of rock flying from a blast.
24,	Dominic Angellio,	Hitcher,	27	M.	Lattimer, W., stripping,	Luzerne,	Leg fractured; caught between hoisting chain and car while unhitching.
25,	Thomas Kudlick,	Laborer,	35	S.	Highland No. 5,	Luzerne,	Leg fractured by a fall of coal.
27,	John Galski,	Miner,	37	M.	Hazleton No. 3,	Luzerne,	Leg fractured by a fall of top slate.
27,	Rocco Vennito,	Driver,	16	S.	Derringer,	Luzerne,	Face and hands burned by an explosion of gas.
27,	John Hriczo,	Laborer,	32	M.	Derringer,	Luzerne,	Face, hands and back burned by an explosion of gas.
27,	John Kuzlik,	Car runner,	32	M.	Derringer,	Luzerne,	Face and hands burned by an explosion of gas.
27,	John Lagor,	Driver,	34	M.	Derringer,	Luzerne,	Face and hands burned by an explosion of gas.

	27,	Paul Herold,	Timberman,	43	M.	Derringer,	Luzerne,	Face, hands and back burned by an explosion of gas.
	27,	Adam Gernhard,	Driver,	24	M.	Derringer,	Luzerne,	Face, hands and back injured by an explosion of gas.
	27,	James O'Donnell,	Driver,	21	S.	Ebervale,	Luzerne,	Pelvic bone fractured by being squeezed between mine car and timber.
	28,	John Scopa,	Laborer,	30	M.	Ebervale,	Luzerne,	Leg fractured by a fall of rock.
Aug.	1,	Stephen Tabishefsky,	Miner,	30	S.	Cranberry,	Luzerne,	Leg fractured by falling while trying to escape from a fall of coal.
	9,	Louis Mogoil,	Miner,	30	S.	Coleraine,	Carbon,	Severely injured while attempting to drill out a missed shot.
	9,	Joseph Vengrin,	Laborer,	32	M.	Lansford No. 5,	Carbon,	Face and hands burned by premature blast.
	10,	George Keploe,	Driver,	32	M.	Milnesville,	Luzerne,	Seriously injured; by the breaking of a king bolt he was thrown under a car.
	12,	John Yanotchack,	Miner,	52	M.	Stockton,	Luzerne,	Head, breast and arm injured by returning to a missed shot, when it exploded.
	15,	Elmer Botarf,	Miner,	30	M.	Beaver Meadow,	Carbon,	Arm fractured; caught between top rail of car and roof of gangway.
	19,	James Boyle,	Pump man,	22	S.	Hazleton No. 3,	Luzerne,	Finger cut off; crushed between flange and connecting rod of pump.
	27,	Michael Marco,	Driver,	26	S.	Milnesville,	Luzerne,	Foot crushed; caught between body of car and tail chain.
Sept.	12,	Mike Kotzton,	Laborer,	19	S.	Ebervale,	Luzerne,	Punctured wound by a fall of coal.
	14,	Philip Borza,	Laborer,	34	S.	Hazleton No. 3,	Luzerne,	Leg fractured by a fall of slate in a breast.
	20,	Anthony Kelley,	Miner,	23	S.	Beaver Meadow,	Carbon,	Collar bone dislocated by a fall of clod.
	25,	Thomas Rawlings,	Miner,	29	M.	Beaver Brook,	Luzerne,	Leg fractured; struck by a piece of coal flying from a shot.
	29,	John Kravich,	Laborer,	35	S.	Highland No. 2,	Luzerne,	Leg fractured by a fall of rock.
Oct.	2,	George Dootal,	Laborer,	40	M.	Cranberry,	Luzerne,	Severely injured; struck by a piece of coal flying from a shot.
	5,	Joseph Conelchick,	Miner,	40	M.	Hazleton No. 5,	Luzerne,	Leg fractured by a fall of coal.
	16,	Michael Armstrong,	Track layer,	40	S.	Harwood,	Luzerne,	Collar bone fractured; run over by an empty buggy.
	18,	Jacob Martin,	Miner,	47	M.	Gowan No. 4,	Luzerne,	Leg fractured by a fall of coal.
	26,	Edward Munhall,	Patcher,	16	S.	Lattimer stripping,	Luzerne,	Leg fractured; caught between a derailed car and locomotive.
	28,	John Poluchack,	Laborer,	30	S.	Jeddo No. 4,	Luzerne,	Thigh and shoulder injured; struck by a piece of coal falling from chute.
	30,	James Powell,	Jack man,	29	M.	Lattimer stripping,	Luzerne,	Scalp wound and internal injuries; struck by steam shovel dipper.
	30,	Paul Denkis,	Laborer,	30	M.	Ebervale,	Luzerne,	Hip and pelvis injured; caught between moving car and bottom of chute.
Nov.	2,	Joseph Mantonis,	Laborer,	22	S.	Ebervale,	Luzerne,	Leg fractured by a fall of coal.
	3,	Toney Grecco,	Driver,	28	S.	Lattimer stripping,	Luzerne,	Arm fractured; caught between a mine car and door frame.
	11,	Frederick Kruger,	Patcher,	14	S.	Upper Lehigh,	Luzerne,	Leg fractured by being run over by a dump car near the breaker.
	11,	Paul Wisokee,	Laborer,	32	S.	Harwood No. 4,	Luzerne,	Leg fractured by a fall of clod.
	27,	George Bolatz,	Driver,	22	S.	Milnesville,	Luzerne,	Leg fractured; crushed between cars on stripping.
Dec.	4,	William Cooper,	Miner,	45	M.	Ebervale,	Luzerne,	Collar bone fractured by a fall of coal.
	7,	Baltzer Krouse,	Miner,	32	S.	Hazleton No. 1,	Luzerne,	Foot injured, necessitating amputation, by fall of coal.
	7,	William Henry,	Miner,	25	M.	Hazleton No. 3,	Luzerne,	Back injured by a fall of coal.
	8,	James Quigley,	Screen boss,	24	M.	Highland No. 5,	Luzerne,	Left thigh, arm and clavicle injured by falling from a platform.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Dec. 16,	Christ. Eichler,	Miner,	35	S.	Jeddo No. 4,	Luzerne,	Compound fracture of arm; struck by a piece of coal.
16,	Joseph McLaughlin,	Miner,	25	M.	Harwood No. 4,	Luzerne,	Painfully burned by explosion of powder.
18,	Nazaretn Brutaline,	Laborer,	22	S.	Derringer,	Luzerne,	Leg fractured by a fall of slate due to carelessness.
20,	George Straub,	Driver,	19	S.	Lansford No. 5,	Carbon,	Seriously injured; squeezed between moving cars and rib of gangway.
30,	Marzello Pasquin,	Miner,	29	M.	Gowan No. 4,	Luzerne,	Seriously injured by a fall of coal.

Sixth Anthracite District.

SCHUYLKILL COUNTY.

Shenandoah, Pa., February 21, 1900.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor of presenting herewith the annual report of the Sixth Anthracite District for the year 1899.

The report contains the usual tables, which were furnished from the office of the Bureau of Mines, showing the fatal and non-fatal casualties, a brief report of which had been sent to the Chief of the Bureau monthly, together with a brief monthly report of my visits to mines.

I regret to have to report that the number of accidents has increased in 1899. The fatal casualties were 72, against 54 in the year 1898, and the non-fatal ones were 99, against 72 in 1898. The number of tons of coal produced per life lost was 104,561 tons, against 120,000 tons in 1898. The total production of coal for the year 1899 was 7,538,404 tons, while for the year 1898 it was 6,513,155 tons, an increase for 1899 of 1,025,249 tons.

During the year I have carefully investigated the causes of the fatal accidents, and herewith give a brief description of how they occurred, together with other data usually embodied in my yearly report.

All of which is respectfully submitted.

WILLIAM STEIN,
Mine Inspector.

Summary Sixth Anthracite District, 1899.

Total production of coal in tons,	7,538,404
Number tons used for steam and heat,	888,274
Number tons sold to local trade and employes,	94,042
Number tons shipped by railroad,	6,556,088
Number tons produced from washeries, which is included in total production,	165,964
Average number of days worked,	182
Number of persons employed,	19,905

Number of fatal accidents,	72
Number of non-fatal accidents,	99
Number of fatal accidents, inside,	68
Number of non-fatal accidents, inside,	90
Number of fatal accidents, outside,	4
Number of non-fatal accidents, outside,	9
Number of wives left widows,	41
Number of children left fatherless,	79
Number of kegs of powder used,	154,169
Number of pounds of dynamite used,	450,914
Number of horses and mules,	2,068
Number of cylindrical steam boilers,	601
Number of tubular steam boilers,	798
Total horse-power of boilers,	37,646
Number of pumps,	140
Capacity in gallons per minute,	87,386
Number of steam engines of all classes,	158
Total horse-power,	30,930
Number of electric dynamos,	1
Number of air compressors,	26
Number of air locomotives,	6
Number of steam locomotives,	43

TABLE A Showing the Production of Coal, Number of Persons Employed by Each Company during the Year, and the Average Number of Tons Produced per Employe.

Names of Companies.	Number of tons produced.	Number of persons employed.
Philadelphia and Reading Coal and Iron Company,	4,422,912	11,650
Lehigh Valley Coal Company,	820,655	2,407
Lehigh and Wilkes-Barre Coal Company,	442,409	1,480
Mill Creek Coal Company,	348,465	641
Lentz & Co.,	295,843	688
Silver Brook Coal Company,	204,890	452
Cross Creek Coal Company,	281,508	618
Susquehanna Coal Company,	271,898	728
Thomas Coal Co.,	86,651	253
Lawrence Coal Company,	110,995	392
Cambridge Coal Company,	42,427	115
Furnace Coal Company,	43,787	97
Stoddart Coal Company,	59,909	74
Brookwood Coal Company,	22,775	21
Star Coal Company,	40,207	144
Girardville Coal Company,	25,193	44
Carson Coal Company,	17,880	101
Total,	7,538,404	19,965

Number of tons produced per employe, 377.5.

TABLE B—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
Philadelphia and Reading Coal and Iron Company,	52	85,056
Lehigh Valley Coal Company,	5	164,131
Lehigh and Wilkes-Barre Coal Company,	4	110,602
Mill Creek Coal Company,	2	174,232
Lentz & Co.,		295,843
Silver Brook Coal Company,	1	204,890
Cross Creek Coal Company,	1	281,508
Susquehanna Coal Company,	1	271,898
Thomas Coal Co.,	1	86,651
Lawrence Coal Company,	5	22,199
Cambridge Coal Company,		42,427
Furnace Coal Company,		43,787
Stoddart Coal Company,		59,909
Brookwood Coal Company,		22,775
Star Coal Company,		40,207
Girardville Coal Company,		25,193
Carson Coal Company,		17,880
Total and average,	72	104,561

TABLE C—Number of Fatal and Non-Fatal Accidents, and the Number of Tons of Coal Production per Accident.

Names of Companies.	Number of accidents.	Number of tons of coal produced per accident.
Philadelphia and Reading Coal and Iron Company,	104	42,528
Lehigh Valley Coal Company,	25	32,826
Lehigh and Wilkes-Barre Coal Company,	12	37,700
Mill Creek Coal Company,	9	38,718
Lentz & Co.,	2	147,421
Silver Brook Coal Company,	1	204,890
Cross Creek Coal Company,	2	140,754
Susquehanna Coal Company,	6	46,316
Thomas Coal Co.,	3	28,883
Lawrence Coal Company,	6	18,499
Cambridge Coal Company,		42,427
Furnace Coal Company,		43,787
Stoddart Coal Company,		59,909
Brookwood Coal Company,		22,775
Star Coal Company,		25,193
Girardville Coal Company,		17,880
Carson Coal Company,	1	17,880
Total and average,	171	44,084

TABLE D—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured.	Injured.	Total.
Explosions of gas,	8	24	
Igniting loose powder,	3	4	
Explosions of blasts,	9	9	
By mules,	2	2	
Falling down slopes,	2		
Breaking of ropes,	1		
By breaker machinery,	1	1	
Falls of coal and rock,	24	31	
Falling under cars,	8	10	
Run over by locomotive,	1		
Smothered by top breaching to surface,	4		
Miscellaneous, inside,	5	9	
Miscellaneous, outside,	4	9	
Total,	72	99	171

TABLE E—Occupations of Persons Killed and Injured.

	Killed or fatally injured.	Injured.	Total.
Inside foreman,			
Fire boss,		1	
Miners,	36	56	
Laborer,	18	20	
Drivers and runners,	6	7	
Door boys and helpers,			
Company men, inside,	7	6	
Outside foreman,		1	
Blacksmiths and carpenters,		1	
Engineers and firemen,		1	
Slate pickers,	1	3	
Company, outside,	4	3	
Total,	72	99	171

TABLE F—Nationality of Persons Killed and Injured.

	Americans.	English.	Germans.	Welsh.	Irish.	Hungarians.	Poles.	Tyrolese.	Italians.	Total.
Killed,	6	3	2	2	8	1	48	1	1	72
Injured,	6	3	2	3	20		64		1	99
Total,	12	6	4	5	28	1	112	1	2	171

Table Showing the Quantity of Coal Produced and Shipped During the Years 1898 and 1899.

	Years.	
	1898.	1899.
Quantity of coal produced, in tons of 2,240 lbs.,	6,513,155	7,538,404
Quantity of coal shipped, in tons of 2,240 lbs.,	5,607,509	6,556,088

Fatal Accidents and Their Causes.

Explosion of gas,	8
Igniting loose powder,	3
Premature blasts,	8
Fell off mule,	1
Kicked by a mule,	1
Fell down traveling way,	1
Struck by a center prop falling down slope,	1
Killed by a dumper running down plane,	1
Killed while getting on water tank,	1
Fell down counter chute,	1
Fell into shaft water lodgment,	1
Killed at battery by rush of coal,	2
Falling down slopes,	2
Car jumping track, knocking out timber,	1
By rope breaking,	1
By breaker machinery,	1
Falls of coal,	17
Falls of rock,	8
Falling under cars,	8
Run over by locomotive,	1
Smothered by top breaching to surface,	1
Total,	72
Fatal inside,	68
Fatal outside,	4
Total,	72

Non-Fatal Accidents and Their Causes.

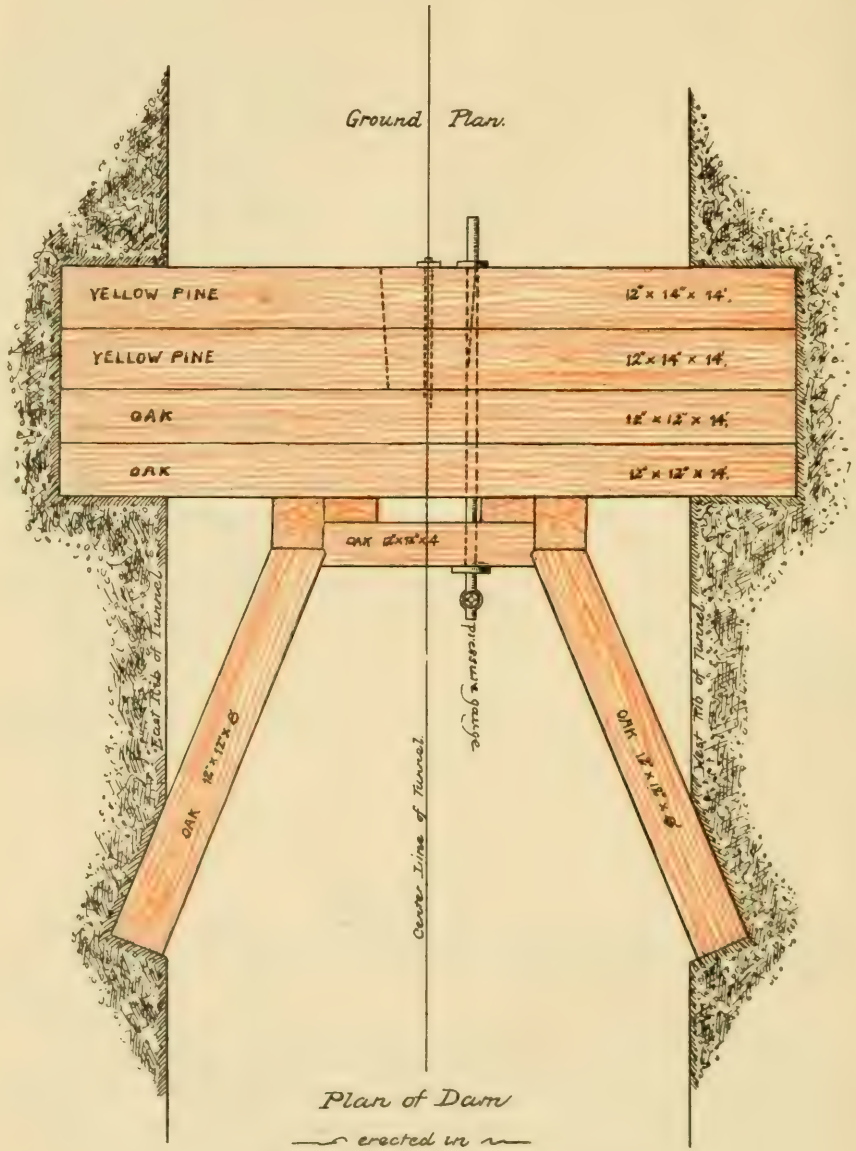
Falls of coal,	24
Falls of rock,	7

Falling of a set of timber,	1
Burned by burning coal falling,	1
Falling under mules,	2
Mine cars,	11
Explosions of gas,	24
Explosion of dualin cap,	1
By railroad cars,	1
Burned by powder,	4
Fall of clay at stripping,	1
Premature blasts,	9
By coal rolling down slope,	1
Struck by a sledge hammer,	1
Coal rolling down breast chute,	3
By breaker machinery,	1
Falling down stripping bank,	1
Coal flying from shots,	1
By steam shovel,	1
Falling off breaker railing,	1
Falling down breast manway,	1
Falling of iron shaft,	1
Fall of rock in stripping pit,	1
Total,	99
Injured inside,	90
Injured outside,	9
Total,	99

"Mine Fires."

There were three mine fires in this district during the year 1899, one at Lawrence colliery, one at Gilberton colliery and one at Kehley Run colliery.

On the night of the 4th of October, 1898, a strong concussion was felt in the east Buck Mountain, fourth lift, gangway, of the Lawrence colliery by the men working on the night shift, which threw a car off the track, but did no damage otherwise. Between the 4th and 11th of October, periodical concussions occurred which were scarcely felt. Mr. William Miller, superintendent, however, notified me that these concussions had taken place. This seam is opened by a tunnel driven south from the Skidmore bed, as shown on the accompanying tracing, and twenty-one breasts have been opened eastward. The west gangway is driven only a short distance from the finish of the tunnel. From the fourth lift gangway to the second lift counter, an opening was driven a distance of 865 feet, on an average pitch of 52



Plan of Dam

erected in

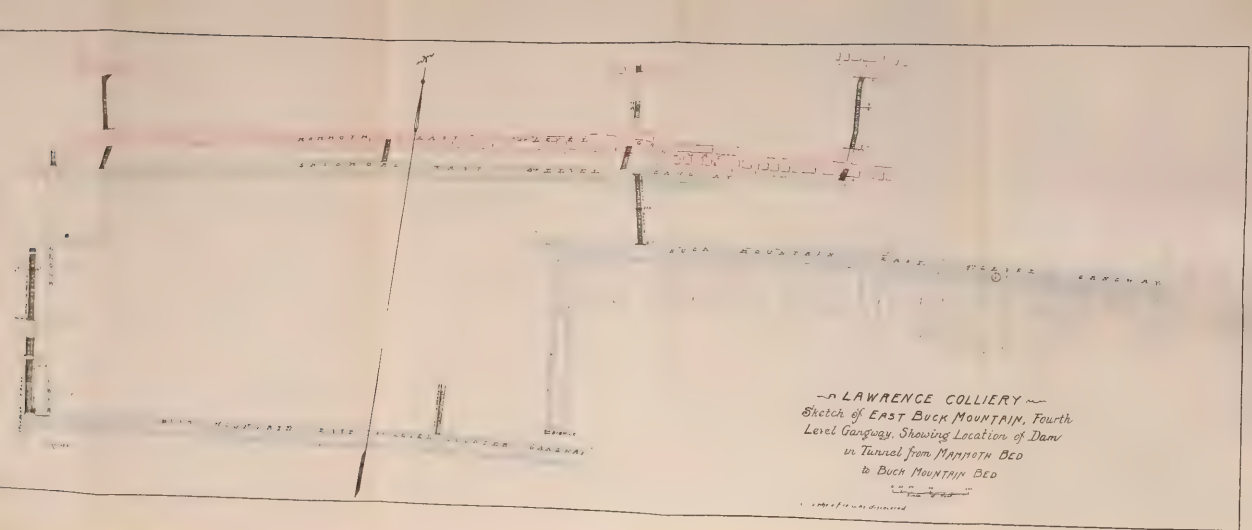
LAWRENCE COLLY.

to flood the 4th Level, Buck Mtn Workings.

to extinguish fire.

April, 1899.

Scale 1/2" = 1ft.



LAWRENCE COLLIERY

Sketch of EAST BUCK MOUNTAIN, Fourth Level Gangway, Showing Location of Dam in Tunnel from MAMMOTH BED to BUCK MOUNTAIN BED

degrees, which, with the tunnel connecting the Skidmore with the Buck Mountain bed, were the only two openings connecting with the Buck Mountain gangways.

On the 11th of October, 1898, I visited Lawrence colliery, and in company with Mr. Miller, superintendent, and Fire Boss William Minahan, made a thorough examination of the district of the colliery where the concussions had occurred (which is known as the fourth left, east and west gangways), for the purpose of ascertaining, as far as possible, the cause of the concussions. We traveled through the tunnel to face of West Buck Mountain gangway in order to find out whether or not the force of the concussion had in any way affected this opening, which has been stopped for over a year. I found that the fungi had been shaken from the timbers, showing that the wind wave caused by the concussion had traveled a short distance along this opening; the gangway timbers were otherwise in fair condition, with the exception of the third set from the face, which were broken down, the result of decomposition. The temperature of the atmosphere was sixty-one degrees and there was no standing gas. We then traveled the east gangway to face. I noticed that the water dripping from the chutes was cold. At the face of the east gangway I found the gas level with the bottom of the collar, and tailing out westward a few sets of timber, but, under ordinary conditions, the fire boss told me, gas was not found there. We traveled westward again on gangway and went up the small chute between Nos. 18 and 19 breasts; found the temperature at this point to be sixty-six degrees. Went up the cross-hole connecting this chute with the return airway, or "monkey." Immediately west of this cross-hole was a battery across the "monkey," constructed with a man-hole door. This battery had been put in place for the purpose of conducting the ventilating current up, across and westward through Nos. 17 and 18 breasts, and again discharging into the "monkey" at a point between Nos. 16 and 17 breasts. This method had been discussed at some length and it was found that no other or better way could be adopted in order to maintain a good air current through these breasts and at the same time discharge all the impurities directly into the return airway. At the point of discharge into the return airway from Nos. 17 and 18 breasts, I found no traveling gas, which proved that the air current was sufficient to dilute all the gas given off from these two breasts. Still traveling westward along the return airway, I carefully inspected the batteries of Nos. 15 and 16 breasts, but found no indications of fire. I took the temperature at Nos. 14 and 15 breasts, which was 67 degrees. I noticed particularly that all the batteries from Nos. 14 to 18 breasts were blown out northward, and from Nos. 14 to 9 breast, inclusive, were blown out southward, which proved that the force of the concussion started

from No. 14 and No. 15 breasts, going east and west, blowing out the weakest obstructions in its course, and ultimately making the gangway the safety valve, so to speak. My investigations, however, did not satisfy me that an explosion of gas had occurred, from the fact of two evidences being absent consequent to an explosion of gas, after-damp, and, generally, men being burned and, therefore, determined to complete the investigations more fully. To aid me in doing so, I deemed it necessary to get a record of the number of cars of coal loaded from Nos. 1 to 18 breasts, inclusive; also, the length and width in feet of each of these breasts and the approximate thickness of the coal seam, as well as the capacity of the mine car, which is as follows:

Cars Loaded from Breasts in East Buck Mountain Gangway.

	Cars.
Breast No. 1,	2,327
Breast No. 2,	1,515
Breast No. 3,	1,866
Breast No. 4,	1,972
Breast No. 5,	1,880
Breast No. 6, reservation pillar.	
Breast No. 7,	1,863
Breast No. 8,	2,480
Breast No. 9,	2,285
Breast No. 10,	2,260
Breast No. 11,	1,904
Breast No. 12, reservation pillar.	
Breast No. 13,	2,052
Breast No. 14,	2,693
Breast No. 15,	2,525
Breast No. 16,	1,676
Breast No. 17,	961
Breast No. 18,	229
Average length of breasts,	300 feet.
Average width of breasts,	24 feet.
Average thickness of coal seam,	20 feet.
Capacity of mine car,	103 cu. ft.

I found that breast 300 feet long and 24 feet wide, and coal seam 20 feet thick, contained 144,000 cubic feet of solid coal, but when loosened, as in mining, will yield 192,000 cubic feet of loose coal. Dividing 192,000 cubic feet of loose coal by 103 cubic feet, the capacity of the mine car, we get 1,864 mine cars, and so, comparing, the number of cars of coal loaded from Nos. 14 and 15 breasts, which the

LAWRENC

SECTION - THRO

1 inch = 50 feet

HOLMES

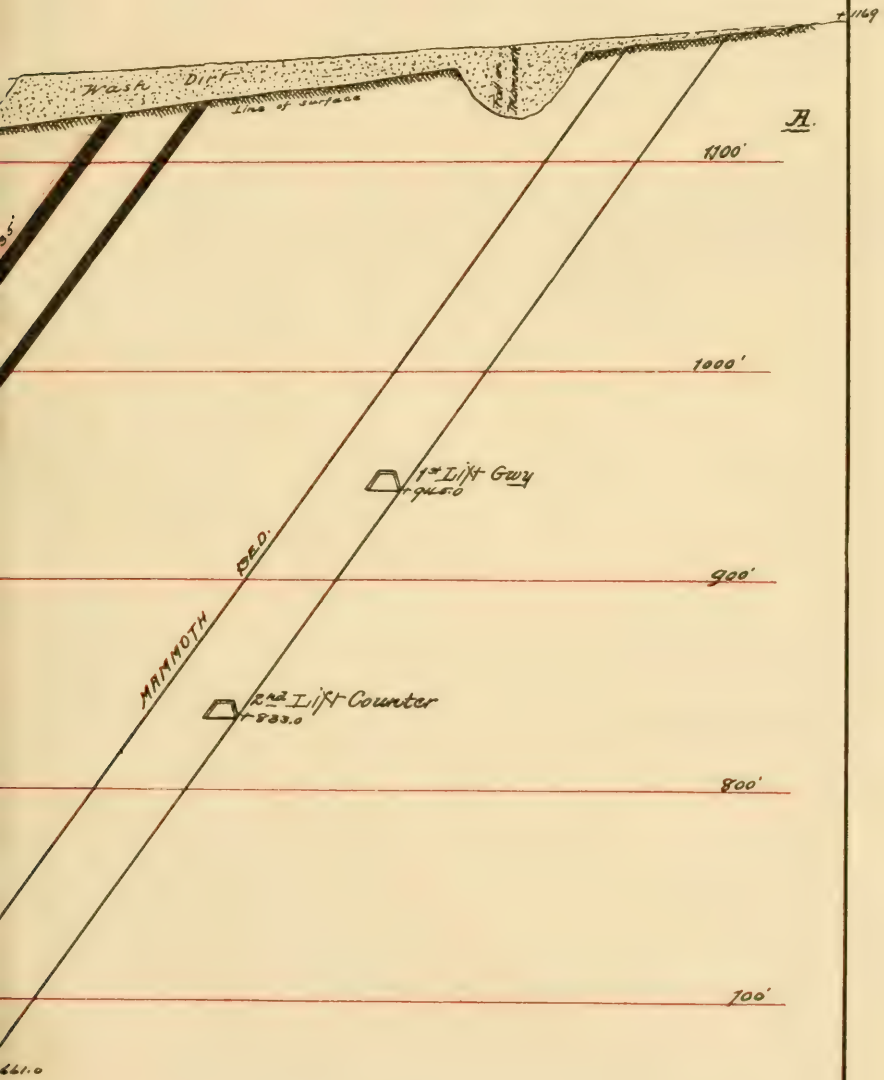
E - COLLIERY.

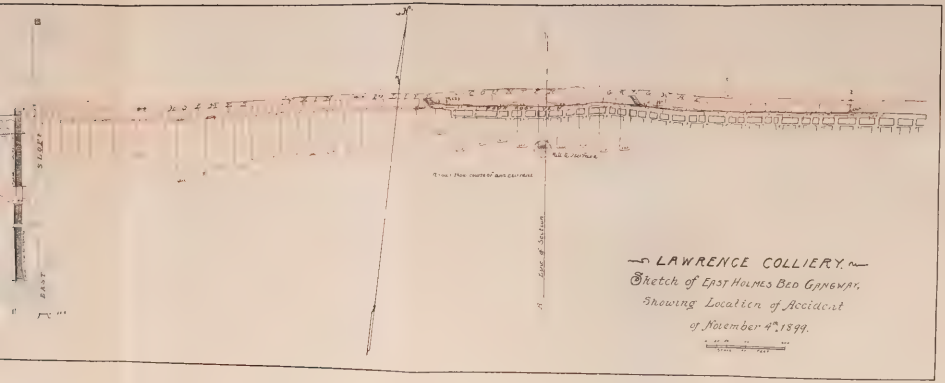
UGH - BREAST - Nº 27,

VEIN, EAST GWY.

P.W. Sheafer Est.

November 7th 1899.




SLOPE
EAST
LAWRENCE COLLIERY.
Sketch of East Holmes Bed Gangway.
Showing Location of Accident
of November 4th 1899.

records show to have been 2,693 and 2,525, respectively, or a total from these two breasts of 5,218 cars, there has been loaded 1,490 cars more from Nos. 14 and 15 breasts than was actually cut in course of constructing them 300 feet up the pitch.

To say where this excess of coal came from, may, to some, seem, speculative, but I think I will be safe in saying that the 1,490 cars loaded from Nos. 14 and 15 breasts, in excess of the coal actually cut by the miners, gravitated from up the pitch, or from the intervening pillars, or both. I, therefore, concluded that the concussions had been caused by a sudden rush of coal from up and across the pitch, or from a sudden displacement of a large area of the overlying strata, into the breasts which had been drawn empty, or nearly so, which made it impossible to examine the workings farther up from the gangway than the first heading, or thirty-six feet.

From my examinations of all the accessible parts of this district of the colliery, I could find no evidence of the existence of fire, and concluded that the empty breasts were now filled up, so that no accidents were likely to occur from falls of top, or displacements of coal from above the faces of the finished breasts. After consulting with the proprietors and official of the colliery as to how to prevent a repetition of concussions from falls of top and displacements of coal from above the face of finished breasts, I suggested that all finished breasts be left full on this steep angled seam, loading coal from No. 17 breast should be stopped, abandon No. 18 breast for the present, leaving No. 19 as a reservation pillar and open Nos. 20, 21 and 22, which was readily agreed to, and the mining of coal from this section of the colliery was continued successfully and without interruption until the 24th of March, 1899, when William Minahan, the fire boss, while making his usual morning inspection, discovered a fire smouldering at the top of the chute between Nos. 16 and 17 breasts. Mr. Miller, superintendent, at once telegraphed me that fire had been discovered in the East Buck Mountain gangway, fourth lift. I visited the colliery, and in company with the colliery officials, traveled the gangway to location of fire. It was at once decided to build a dam in the tunnel driven from the Skidmore to the Buck Mountain bed and run water down from the second lift counter through the 865-foot opening connecting the fourth lift with the second lift counter gangway. It was subsequently decided, however, to abandon the fourth lift after all the cut coal had been loaded out, and so the running in of water was stopped when the gauge at dam indicated a pressure of forty-two pounds to the square inch.

The fourth lift is now abandoned and filled with water.

The accompanying tracings show the location of fires in the East Buck Mountain, fourth lift, gangway; also, the location of dam in tunnel.

The tunnel is ten feet wide and seven feet high. Notches were cut on either side, as well as on the bottom, three feet, and at each end of the logs forming the dam, brick was laid in cement. After the inside logs were properly laid, a man-hole door was made, so as to allow the men to get through, after which a keystone was drawn in by a heavy bolt, as shown on the plan, and a pipe runs through to the front, to which is attached a pressure gauge; the gauge is put in place only when taking the pressure.

Gilberton Mine Fire.

Gilberton Colliery is owned and operated by the Philadelphia and Reading Coal and Iron Company.

On the 5th of June, 1899, a concussion was felt in the third lift, west gangway, which is being finally robbed out. Evan Thomas, the miner robbing the pillars, reported at once to the mine foreman, George Thomas, who visited this section of the Colliery alone. When he reached the point where No. 17 breast is opened from the gangway, he stated that he had found gas in his safety lamp, and almost at the same time an explosion of gas occurred, burning him slightly. Thomas made his way out to the bottom of the slope but lost his safety lamp. I was notified of the accident and arrived at the colliery about two hours after the explosion occurred, and in company with George Scott, division superintendent, and Thomas James, district superintendent, visited the scene of the explosion. The surroundings did not give evidence of a serious explosion having occurred, but, on the contrary, that only a small quantity of gas must have been ignited, which gave rise to the conjecture that Thomas had, perhaps, taken a naked lamp with him and ignited a small quantity of gas. This, however, was suggested more for discussion to arrive at the real cause of the explosion of gas which burned Thomas, for we could not believe that even an ordinarily intelligent miner would make an examination of this gangway with a naked light, under the conditions given by Thomas. I then suggested that perhaps there was a mine fire, and that gas had been ignited some distance from No. 17 breast, and that the flame had come down onto the gangway at No. 17 breast, burning the mine foreman. I mentioned the fact that an explosion of gas occurred on the 25th of January, 1899, in No. 23 breast, west third lift, which burned Robert Grafton, miner, and Anthony Nedzinskie fatally (Grafton stated before dying that he used a naked lamp, contrary to the order of the mine foreman), and that perhaps the flame from this explosion had ignited the coal, which had been smouldering up to the 5th of June; that this smouldering fire would take considerable time to develop, because taking out the pillars had caused the roof strata to fall, making a deep covering where the fire existed.

The gases from the fire were not encountered, from the fact that the ventilating current carried them from the men working there. The theory that there was a mine fire in this section of Gilberton colliery and which, no doubt, had been burning since the 25th of January, 1899, and which also ignited the gas on the 5th of June, 1899, was supported by the fact that the gases from the fire came out the gangway to within a short distance of the bottom of the slope.

On the 6th of June, Mr. John Veith, at the head of the mining department, made a thorough examination of the colliery, in company with Messrs. Scott and James, his assistants, and myself, and gave peremptory instructions to isolate the west side of the colliery from the fourth lift to the surface. This was done by erecting temporary plank batteries across the entrance to each gangway, so as to keep back the gases generating from the fire, while the men were working at the permanent brick batteries, which was successfully accomplished, and I have no doubt but that the West Buck Mountain gangways of this colliery are hermetically sealed and may not be opened for the next ten years. The east side of the colliery, together with the upper veins, are in operation, no time having been lost on account of the fire.

Kehley Run Fire.

Kehley Run colliery is opened on the lands of the Girard Estate, and operated by the Thomas Coal Co.

On the 27th of November, 1899, fire was discovered in No. 43 breast chute, West Mammoth gangway, second lift, below water level. Final robbing of the pillars has been going on in this gangway for a number of years, and Kohinoor colliery, to the south, is connected with Kehley Run, and Indian Ridge colliery, to the east and south, is also connected with Kehley Run, and Shenandoah City with Indian Ridge colliery.

The fire, although not having spread over much ground, naturally arrested the attention of all who were interested in any way, for the safety of the Kehley Run colliery, as well as the other three collieries, Kohinoor, Indian Ridge and Shenandoah City, the property of the Philadelphia and Reading Coal and Iron Company.

The fire was successfully extinguished in four days, through the combined efforts of Mr. Heber S. Thompson, superintendent and engineer for the Girard Estate, and Mr. John Veith, of the mining department, for the Philadelphia and Reading Coal and Iron Company, together with his staff of assistants.

The method used in extinguishing this fire was by forcing water through pipes constructed down what is known as the "Ringtown Slope."

During the past fifteen years we have had to contend with twenty-five mine fires, the origin of which was as follows:

Igniting hay in stable,	1
Blasts igniting gas which communicated to the coal,	11
Timber ignited from naked lamp in airway,	1
Cotton ignited in pump house,	7
Fall of coal blowing flame through gauze of lamp,	1
Cotton ignited in fan house, burning down fan-way,	1
Igniting canvas in chute,	1
Igniting dry timber with naked lamp,	2
	25

In tracing the origin of mine fires, I found them all to have been caused by carelessness of the workmen, with the exception of three. Mine fires are often attended with great danger to the workmen engaged in extinguishing them. In engine rooms, cotton saturated with oil is thrown carelessly away by the engineer, and is sometimes set on fire. Hay in stables is set on fire through the carelessness of the stable boss in using a naked lamp or allowing persons to enter the stable with a naked lamp. Dry timber is often set on fire by a spark from the naked lamps of the men employed at retimbering. Coal is often ignited by a feeder of gas, which has been ignited by a blast; this has often occurred at quitting time, when the miner will fire his last shot for the day and leave without examining his working face after firing the shot.

To prevent as far as possible, mine fires from any of these causes, lanterns are used in engine rooms and stables; night fire bosses have been employed to examine the workings at night, and also the day fire boss is required to visit his section of the colliery on Sundays the same as on week days.

The Lehigh Valley Coal Company issued an order that all fire bosses should use the safety lamp absolutely, no matter where they might go in the colliery. This rule may seem too general, but when we take into consideration the fact that some of their fire bosses have been burned by igniting gas with a naked lamp, the general superintendent is not to be blamed for issuing the order. This company has also a fire inspector, whose duty it is to visit the collieries periodically to see that all the old timber is sent to the surface and, in his capacity, the mine foreman is subject to his orders in this respect.

Remarks on Fatal Accidents.

Mike Brunzo, a miner, killed on the 3d of January, 1899. He had finished his day's work and came to the surface through the seven-foot traveling way to get some props. At this detached section of Packer No. 3 colliery, the mine foreman, Mr. Fenton, made

a special contract with Brunzo to lower down their props with a windlass provided for that purpose, and he had worked at this contract for months. Brunzo was carrying a prop forward to lower it down, when he stumbled and rolled down the traveling way and was instantly killed.

Robert Cray, bottom man, was killed on the 5th of January, 1899, while riding up the hoisting slope of Hammond colliery. Cray and his partner, Humes, had cleaned up the bottom of slope after quitting time, and were being hoisted to the surface, when a broken center prop rolled down and struck Cray, who stood on the bumper of the car, about thirty-five feet up from the bottom of the slope. The center prop must have been broken in two by a piece of coal falling from top of car in hoisting hours.

Frank Wertz, machinist, killed January 11, at North Mahanoy colliery. He was engaged running railroad cars under the breaker, when the wheel of the "Barney" broke going up the surface dirt plane, liberating the dumper attached to it, causing it to run down, killing Wertz as he passed the foot of the plane.

George Bubnis, a miner, was killed on the 14th of January, in Maple Hill water shaft. At this shaft, the men are hoisted to the surface on top of the water tank constructed for that purpose. The bottom man made a mistake with the signals between the bottom and top. Bubnis was allowed to enter the compartment for the men, when the engineer obeyed the signal given by the bottom man and raised the tank as he was about to step in, fatally injuring him.

Joseph Plesky, a miner, working in St. Nicholas colliery, was fatally injured by a fall of coal and died same day. Plesky was about to commence drilling a hole when a fall of coal occurred. An examination of the place where this man lost his life proved that the loose coal should have been taken down, as the fractured coal from a former blast made the surroundings very unsafe.

Michael Stanskey, miner's laborer, was instantly killed in North Mahanoy colliery on the 20th of January by a fall of coal. This man was working for George Kemmersell, a contract miner, and had fired a shot and was allowed by the miner to return to work before first making an examination as to whether it was safe for the laborer to return to work.

George Kalavage, miner's laborer, was killed instantly on the 20th of January in Knickerbocker colliery, by a rush of coal from breast, squeezing him against the foot prop. This man went up the chute, and finding that the coal had stuck at battery, and not seeing the starter, who was in a heading, undertook to start the coal, which cost him his life.

Anthony Joyce, a driver, was killed on the 20th January, in Turkey Run colliery, by falling under a mine car. He was in the act of

stepping on the car, but his foot caught in the spreader, causing him to fall under it.

John Doyle, a miner, was fatally injured on the 23d January, in Wm. Penn colliery, and died on the 25th. He shortened the squib, causing the blast to explode before he got away. This is what has been all along termed a premature blast, while the death or injury is the result of willfully violating Rule 32, Article 12, under the head of "General Rules."

Robert Grafton, a miner, was fatally injured by an explosion of gas in Gilberton colliery on the 25th of January, and died on the 29th. According to his own statement, he used a naked lamp, contrary to the instructions of the mine foreman.

Anthony Nedzinsky, a miner, was fatally burned on the 25th of January by an explosion of gas in Gilberton colliery, and died on the 26th. This man had been in the habit of using a miner's lamp when he was sure the mine foreman or fire boss was not likely to visit his work, although peremptory orders were issued to use the safety lamp absolutely. He was working on the night shift, and as he was not likely to be detected, used the naked lamp and ignited the gas, which caused his death. With some men, very stringent measures have been resorted to by the mine foreman to prevent them from taking miners' lamps, tobacco pipes and matches into the mines. At one colliery, I was shown two powder kegs full of lamps, pipes and matches which the mine foreman had taken from his men.

Joseph Kuchera, a laborer, was fatally injured by a fall of coal on the 22d February, and died a few hours later. He worked in Audenried No. 4 colliery for Isaac Lewis, in a gangway. Isaac had not made a thorough examination of the work, otherwise he would have found that the top and side were not safe.

Thomas Simmis, a miner, was killed on the 23d February, in Buck Mountain colliery, by a fall of coal. He was engaged skipping pillars and had driven a heading to connect with the neighboring breast. At this point the coal was disintegrated, "slippy;" I found that proper precaution had not been observed under these conditions.

Anthony Bendrick, a miner, was killed on the 25th February, in St. Nicholas colliery. He, with others, was being hoisted up the subterraneous slope, and he fell off the car and rolled down the slope 300 feet on a pitch of 48 degrees. The evidence given at the inquest was very contradictory regarding the signals given to the engineer. I was of the opinion that the engineer made an overhoist.

Joseph Seplaskus, a miner, was instantly killed by a blast on the March 1st, in Maple Hill colliery. This man had prepared a blast, and when placing the squib, he cut it, which caused the blast to explode before he had time to get away. This is often done, and, notwithstanding the many accidents that occur from this practice,

and the vigilance of the mine officials, the shortening of the squib is continued.

Joseph Auchokites, a miner, was killed on the 4th March by a fall of coal in Maple Hill colliery. He was barring down coal, and the position he was in showed that he was incompetent to mine coal, as he actually pulled the coal down upon himself.

John Suffen, loader, was fatally injured on the 9th of March by an explosion of gas in Mahanoy City colliery. One of the miners went up into a finished breast to bring out some old timber. There was standing gas in this breast. The boss was to blame for not knowing the condition of the old works. The fire boss was also to blame for not making his usual weekly visits through the old workings, and the miner was also to blame in going where men were forbidden to go.

Stephen Selesky, a miner, was fatally injured on March 9th by an explosion of gas in Mahanoy City colliery, at the same time and under the same conditions as John Stuffen.

Anthony Smollick, a miner, was fatally injured by an explosion of gas in Turkey Run colliery on March 13th and died on the 27th. He was called down from face to load a car and returned to face with a naked lamp instead of taking his safety lamp. A great many explosions of gas occur in this way which can only be stopped by using the safety lamp absolutely where gas is found.

Louis Barne, a miner, was fatally injured by a fall of coal in Knickerbocker colliery on March 21st and died on his way to the hospital. He had fired a shot and returned to the face to dress off the fractured coal. His partner cautioned him not to stand under some overhanging coal, but he replied that it was all right and while barring out the under bench the top fell on him.

Archibald Shoppel, working on the culm bank at Maple Hill colliery, was fatally injured on March 27th and died on the 28th. He jumped on the front of a locomotive and when stepping off he slipped and fell under the locomotive, the wheels passing over both legs.

John Ward, a miner, working in stripping at Silver Brook colliery, was fatally injured on April 10th and died on the 21st. He was pushing dynamite into a hole with a needle instead of using a wooden tamper.

Daniel Purnell, a driver in Boston Run colliery was fatally injured on April 14 and died on the 24th. In getting on bumper of car his foot slipped, causing him to fall under the car.

Andrew Lewlas, a miner working in Maple Hill colliery, was killed on the 3d of May. He fired a shot which ignited a keg of powder, killing him instantly and burning four other men, who recovered.

Henry Chesona, a laborer, working Turkey Run colliery, was

instantly killed on the 5th of May by a fall of coal while loading a car. Also, Bernard Secotskie, a miner, was killed by the same fall of coal. In company with the officials and a few of the workmen working nearby, who assisted in taking these men out, I made a thorough examination of the place, and we all came to the conclusion that it was an unavoidable accident.

Jacob Beltz, a patcher working in Buck Mountain colliery, was killed on the 22d of May. While the air locomotive was pulling in a trip of cars, Beltz stopped behind the trip to shut the door, then got on the last car which jumped the track, knocking out three sets of timber, part of which fell on him.

Michael Olitis, platform man, was fatally injured at Ellangowan colliery on the 24th of May and died on the 26th. He was bumped between mine care at the tip of breaker. He stepped out from breaker tip to where a cross-casting was in place to switch the empty car to empty track, and was caught between loaded car running in to tip and empty car running from tip.

Simon Maffia, a miner, working at Lawrence, was killed on the 2d of June. He was working on the night shift and after quitting work came out with ten more men to second lift counter bottom to be hoisted to the surface. Two men were repairing the "tender" slope, who were notified that the ten men wished to come up. Those two men came up to the second lift counter on the truck, with the intention of quitting also. They, with the ten men, got on the truck, when, in some way, Maffia was pulled off and fell down the slope. At the inquest, it was very difficult to get the witnesses to testify to the truth of the real cause of the accident; in fact, none of them knew how many men were on the truck, but I found from my investigations that twelve men were on it, however, they did not wish to incriminate themselves nor the man in charge of the signaling.

Frank Harley, laborer, working in No. 11 slope, Audenried No. 4 colliery, was instantly killed on the 8th of June by a fall of coal from high side of gangway. After examining the place it was evident that the side and overhanging coal and slate had not been examined by the miner, Owen Evans, for some time before the accident occurred. From the fact that all overhanging coal or rock will gradually fracture from the rib, just as a piece of timber will break off if made fast at one end and loaded with a weight at the other end more than it can sustain, frequent examinations should be made, which, if done, would save many lives and serious injuries to the workmen.

Emil Amernack, a miner, working in No. 6 slope, Kohinoor colliery, fatally injured on the 12th of June by a fall of coal, and died from his injuries. In making an examination of the breast where the accident occurred, I found a slip running across the face and another

running up the west rib of breast, both well defined, which, to a good practical miner, would be sufficient reason for being extra vigilant, and no doubt, had Amernack had been properly educated to the dangers attending the mining of slippy coal, he would have blasted down the coal which fell on him, rather than have worked under it.

John Chestnut, bottom man, working in Gilberton colliery, was squeezed between mine cars on the 12th of June and died on the 13th. He stepped between the cars, which was not necessary for him to do, as he had no coupling nor uncoupling to do.

Joseph Melracavage, a miner, working in Gilberton colliery, was fatally burned by powder on the 13th of June and died the same day. He was filling a cartridge when a spark from his lamp fell into the powder. I was in the colliery at the time of the explosion, and from what I could learn, Malracavage had his lamp on his head instead of five feet away from him, as provided by Rule 28, Article 12, under the head of "General Rules," of the Mine Ventilation Law.

George Murer, a miner, working in No. 11 slope, Audenried No. 4 colliery, was fatally injured on the 16th of June and died on the 19th. This man was sinking a prop hole when a feather-edged piece of top slate fell and rolled over him. The piece of slate measured ten feet long and fifteen inches thick in the center, thinning out to sharp edges all around. Bell-shaped pieces such as this are often met within this seam, but if tested by sounding with a pick, will always give signs of being dangerous.

Reuben Urbansky, a miner, working in Maple Hill colliery, was killed on the 19th of June by a fall of coal. This man was shoveling coal down a breast, when a lump rolled down, jamming him against loose coal below where he stood.

Peter Shooko, a miner, working in Ellangowan colliery, was killed on the 27th of June by a fall of slate. He was shoveling coal out of a heading, when a piece of slate fell on him. He was told by his partner to take it down; he replied, "Me know more as you."

Frank Ansavage, a laborer, working in the Kehley Run colliery, was killed on the 28th of June by a fall of coal. This accident, in my opinion, was unavoidable.

Casper Shilginsty, a laborer, working in Schuylkill section of North Mahanoy colliery, was fatally injured by a fall of top rock on the 10th of July. Both legs and one arm were broken and one foot cut off. The miner found that the piece of rock was loose, and he, with Shilginsty and the other laborer, tried to bar it down, but failed to do it. They then concluded to blast it down. The miner, with the laborer, commenced drilling a hole in it, while Shilginsty stood looking ont, when, without any warning, the rock fell, injuring Shil-

ginsty as above stated, and he bled to death before reaching the surface. It was the duty of the miner to keep his men from getting under the dangerous piece of rock.

Joseph Stanavage, a miner, working in Suffolk colliery, was killed on the 15th of July by a shot firing on him. He shortened the squib, or match; this is generally called a premature blast, and the coroner's jury gives their verdict "accidental death," while the shot exploded prematurely because the victim had shortened the squib, or match.

Michael McDonald, a miner, working at Packer No. 5 colliery, was killed on the 24th of July. McDonald and Duffy were driving a heading from their breast, No. 17, Diamond vein, toward No. 18 breast. John McManaman and his "butty" were driving to meet them, and they fired a shot which blew through, killing McDonald. It was claimed that McManaman gave the proper warning to McDonald to get away, but a shot was fired by McManaman on the opposite side of his breast, which might have caused McDonald to suppose that it was in the heading coming toward him, and he returned, when a second shot fired, which was the one that blew through, killing him. It was evident from the testimony given at the inquest, that McDonald and McManaman had not understood each other.

John Short, a laborer, working in Ellangowan colliery, was fatally injured on the 28th of July and died two hours after. Short was getting coal down on the sheet iron when a large lump slipped out from the rib of the breast. The lump of coal gravitated down of its own weight from a slip which was plainly exposed at two points and should have been either propped or taken down by the miner in charge.

George Demshock, a laborer, working in Ellangowan colliery, was killed on the 1st of August. This man was killed by a blast in the Sump gangway, No. 3 lift. From evidence, such as a twisted drill and needle, he must have been tamping the hole at the time he was killed.

Alfred Owens, a driver, working in Packer No. 3 colliery, was killed on the 5th of August. This young man had taken in his last car for the day in the west seven foot gangway, fourth lift, and was found dead on the gangway about 175 feet from face. The cause of his death was supposed to be either from falling from the mule or having been kicked by it, and the testimony given at the inquest by the men who found Owens, led the jury to give a verdict that death was caused by falling from the mule. Some time after the inquest was held, a rumor became public that Owens was killed by a fall of coal and carried by the gangway man and his men back to the point where they swore he was found by them as they traveled out the gang-

way after quitting work. This rumor caused the deputy coroner, J. J. Cardin, to arrest the miner for perjury, and he was given a hearing before justice of the peace, Shoemaker, who bound him over to appear at court for trial. He was found not guilty. The evidence given at the hearing before the justice of the peace was very contradictory.

John McHugh, a miner, working in Audenried No. 4 colliery, was killed on the 9th of August in the Lykens Valley seam by a fall of slate 12 feet long, 4 feet wide and 8 inches thick in the center, thinning out to a feather edge all around. McHugh had fired a shot in the bottom bench and returned to trim down the fractured coal, when the slate between the bottom and top benches of coal fell on him. This is the second death which occurred at Audenried No. 4 in the same seam and under the same conditions, which should cause the workmen to be especially careful not to work under the overhanging top, unless first propping to prevent it falling.

William Cuff, a curve boy, working in the Hammond colliery, was killed on the 9th of August. He jumped on empty trip at bottom of slope, beside the driver, on the front car, where he had no right to be (for none but the driver should be on the front car), and when the trip reached the tongues on curve, the front car jumped the track and Cuff was caught between the car and timber. There is no doubt but that the tongues were misplaced by some one.

Charles Wiskers, a miner, working in Turkey Run colliery, was fatally injured on the 14th of August. Wiskers was charging a hole with powder, but had made the cartridge too large, and was forcing it back with a drill when it exploded.

Michael Merosky, a laborer working in Tunnel Ridge colliery, was injured on the 29th day of July and died on the 8th of August in the Miners' Hospital. His wrist was cut by a piece of coal falling on it; the injury was considered trifling and he continued to work. His arm became very much swollen and a few days afterwards he entered the hospital, where he died.

Frank Oswalt, a driver, working in Schuylkill section of North Mahanoy colliery, was fatally injured on the 31st of August and died on the 3d of September. This young man was engaged bumping cars in what is known as the west top split, Yatesville basin, Schuylkill section. He had unhitched his team from the center hitch and hitched on to the side hook, and then jumped on the side of the car while it was in motion and was caught between the car and rib.

Adam Plicknick, a miner, working in Maple Hill colliery, was fatally injured on the 5th of September and died on the 7th. He was barring down loose coal and stood in front of coal, instead of at the side, and the coal fell toward him.

Herbert Spadkuskis, a miner, working in Ellangowan colliery, was

fatally injured by a blast on the 11th of September and died on the 12th. He had charged a hole with powder, and his partner said that Spadkuskis shortened the squib, which gave him little time to get away, and the coal from the blast struck him.

Joseph Fellen, a driver, working in No. 3 slope, Oneida colliery, was killed on the 11th September. Fellen was driving a four-mule team in No. 4 gangway, east. He had gathered a trip of nine loaded cars at the foot of the run, or grade. Two cars stood on the flat at foot of grade and seven back on the grade, and in order to prevent the cars from pushing ahead, he put sprags under the wheels of the third and fourth cars, and at the same time hooked his mules to the trip to pull out. He told the patcher, John Kesh, to start up the mules while he was trying to take out the sprags (the sprags were put on top of and parallel with the rail), and the mules having started, pulled the cars over the sprags and toward the side, killing Fellen.

Daniel Blackwell, pumpman, working in Tunnel Ridge colliery, was killed on the 20th of September. He was dumping a car of coal into a counter chute, but when the car got on the tip it did not raise high enough, which prevented the coal from running entirely out. Blackwell got into the car to loosen a piece of coal, which he succeeded in doing, but when the lump of coal slipped toward the end of the car next the dump, it caused the back end to raise, dumping the coal and himself down the chute, killing him instantly.

Joseph Kocufskie, a laborer, working in Boston Run colliery, was killed on the 5th of October. He was assisting in standing relief timber in the second lift, West Holmes, gangway. The miner cut a gangway leg to take down old timber; he had difficulty in getting the old timber out, and was barring it out, when the top rock fell, killing Kocufskie. Had the miner lagged the top between the two new sets of timber which he had put up, before attempting to take out the old timber, Kocufskie would not have been killed at this point.

William Malofsky, a laborer, working in Primrose colliery, was killed on the 9th of October. He was employed by a contract miner and was loading a car when a fall of rock took place. The miner was responsible for the death of this man in not making the place of work secure.

John Lesko, a miner, working in Mahanoy City colliery, was fatally injured on the 9th of October and died on the 10th. Lesko and his partner, of the same name, were working in breast No. 44, West Buck Mountain gangway. The coal in this breast got, what is termed by the miners, "free and faulty," and gas is generally given off under these conditions. Lesko fired a shot, and when he returned to the face he found gas. Instead of notifying the fire boss, he commenced to brush the gas out, and in doing so it came in contact with the naked lamp of his partner, causing an explosion.

Joseph Koieleskie, a miner, working in Shenandoah City colliery, was fatally injured on the 16th of October and died on the 19th. While this man was walking along the gangway to his work, he passed a mule, which kicked him, causing his death.

Adam Suplinskie, a miner, working in Shenandoah City colliery, was fatally injured on the 17th of October and died on the 25th. This man was driving the second lift gangway, West Buck Mountain bed of the subterraneous slope. A fault had been met with in this gangway and the coal was very free. Naked lamps had been used to work with, but examinations were always made with the safety lamp, if men were absent from the face for any length of time. On the morning of the 17th, a sudden outburst of gas took place, causing an explosion. Ventilation was unusually strong.

Peter Grim, a miner, working in St. Nicholas colliery, was killed on the 18th of October. Grim ignited a shot with a shortened squib, or match, which exploded the blast before he had time to get away.

Alexander Saditus, a laborer, working in Gilberton colliery, was killed on the 23d of October. The miner, with his laborers, was timbering in the West Holmes, second lift, gangway, and were lifting a collar on to the legs when a fall of coal occurred, killing Saditus. An examination of the place was sufficient to show that the miner did not examine the surroundings, or was not qualified to know when coal was loose.

Adam Simalla, a miner working in Ellangowan colliery, was fatally injured on the 25th of October and died on the 29th. He was barring down loose coal, which was connected with overhanging coal behind. The piece he was barring down, brought the overhanging coal down on him.

Joseph Jones, a slate picker, working at Mahanoy City breaker, was fatally injured on the 2d of November and died the same day in the Miners' Hospital. This boy was going down a ladder, when he slipped, falling against the egg coal shaker. Why he should have gone on the ladder is a mystery, as no one is needed there and every part of the breaker is properly fenced off.

Gus. Cantavich, Michael Drabig, George Lutsha and George Baxia, all working at Lawrence Colliery, were smothered on the 4th of November in the return airway of the East Holmes gangway. On the 3d of November a cave-in took place at the face of breast No. 27, the vertical height from the face of breast to the surface being 104 feet, and the distance on the pitch from the face of breast to the surface being 135, on an angle of dip of 51 degrees, as shown on the accompanying cross-section. In connection with this accident, I also send herewith a horizontal tracing of the Holmes and Four Foot workings, showing their relative position to each other and giving the line of section "A. B." through breast No. 27.

The horizontal tracing shows the breasts to be getting shorter in course of constructing the gangways and breasts eastward in the Holmes and Four Foot beds.

The outcrop of these two beds was known, from provings, to be bearing north and down in the valley, and because of this, Mr. Walter S. Sheafer, who is the general manager of the Lawrence colliery, together with the members of the P. W. Sheafer Estate, decided to leave 135 feet of solid coal between the faces of finished breasts and outcrop, which is almost equal to a lift of coal. This was done in order to prevent any breaking through to the surface, which might endanger the lives of the workmen, and also to keep the surface water from getting into the mines.

As already stated, on the 3d of November a cave-in occurred at the face of No. 27 breast, going through to the surface, bringing down gravel, sand and wash dirt, or silt, which had been run out from the breaker. This material being mixed with water, gravitated down to the Holmes gangway and airway, partially filling these openings. Men were put to work to clear away the debris, using kegs and shovels. This work progressed satisfactorily until the night of the 4th, when another rush of fine material took place, rushing out the airway and gangway and driving the men before it. The men who were working in the airway, in their excitement, tried to escape down one of the chutes connecting with the gangway, but an air battery, with a man-hole door, being constructed in all of the small chutes, prevented them from making a ready escape to the gangway, and the four named men were smothered. Had these men walked out the return airway they could have escaped westward as far as the main tunnel and got out at No. 1 breast, this airway being fifteen to twenty feet vertically above the level of the gangway.

The coal at the face of No. 27 breast was usually strong. The breasts were worked twenty-four feet wide, and pillars twenty-five to thirty feet wide; thickness of vein, six to seven feet. Where the roof of the vein was noticed to be weak in some sections of the gangway, the breasts were driven twenty feet wide, and so the precautions that were adopted as a safeguard against the possibility of surface breaches were considered perfect, when compared with the other beds in this valley, which are mined almost to daylight; in fact, both sides of the valley has the appearance of a long railway cut from the breasts on the Mammoth bed breaching to the surface.

It may be speculative to give a reason why a cave-in should have occurred immediately over No. 27 breast in the Holmes bed, with a cover of 161 feet in thickness; still, there is no doubt but that the overlying strata was weak at this particular place of the earth's structure, which was caused by a thicker deposit of sand and gravel and a thinner stratum of rock measures.

Mike Subig, a miner work in Turkey Run colliery, was killed on the 4th of November. Subig was woring for a contract miner named William Lindamuth at robbing back a gangway. He was loading a car when a piece of coal fell from over the timber, striking him on the head.

George Townsend, a driver, working in Gilberton colliery, was drowned in the water shaft. He went to the surface for oil and returned to shaft and was lowered down on the cage to the fourth lift, but was not missed until after quitting time, when a search was made for him and he was found at the bottom of the shaft, under water. The supposition is that he had no light when he got to the landing of the fourth lift, and instead of moving the movable plank across the entrance to the shaft, to prevent any one from falling down it, he got between the shaft timbers and fell down.

Frank Nause, a laborer, working in No. 30 slant, east top split counter, North Mahanoy colliery, was killed on the 21st of November. The miner was taking a skip from the old gangway to get the road in, and had tried to take down the piece of rock which afterwards fell on Nause, but could not. He then drilled a hole in it to blast it down, and while he was doing so, it fell, killing Nause, while he was loading a car.

Charles Savitsky, a miner, working at Maple Hill colliery, was fatally injured on the 23d of November and died on the 29th. He was in a heading, trimming his lamp when a spark fell into a keg of powder.

Adam Lescavage, a laborer, working in Tunnel Ridge colliery, was killed on the 1st of December. He was working for James and William Herring, contractors, robbing the East Buck Mountain gangway, first lift. Lescavage went up the chute, when a rush of loose coal from the breast caught him against the rib.

Henry O'Brien, a bottom man, working in Packer No. 4 colliery, was fatally injured on the 6th of December and died the same day in the Miners' Hospital. The rope on the hoisting slope broke, the car ran back to bottom of slope and a piece of coal struck O'Brien. This rope had only been in use since the 13th of October, 1899, and, consequently, was new. I examined it, but could not find any injury to it from coming in contact with anything that would have cut the wires.

Joseph Mascites, a bottom man, working in Knickerbocker colliery, was instantly killed on the 14th of December. It was his duty to sprag the cars on the turn-out and run them in on tip to be dumped into the gunboat. In doing so, he neglected to put sprags in the cars behind the one he had just run in, which caused four cars to run down, squeezing him between them and the car on the tip.

Improvements at Collieries.

A new rope haulage has been constructed at Indian Ridge colliery, which extends from the bottom of the subterraneous shaft (sunk from the Mammoth vein to the Buck Mountain vein) to the old Buck Mountain slope, a distance of over 2,000 feet. Two bore holes were sunk from the surface, through which the ropes pass from the drum, attached to a pair of engines; length of rope, 2,800 feet.

At Buck Mountain colliery during the year numerous improvements have been made. Several new jigs have been put in the breaker. A new pair of breaker engines, 16x24 inches, have been installed to take the place of the old engine. A new machine shop has been built and fitted with all necessary machinery for colliery work.

Ten new blocks of first class houses for miners have been built, with six rooms in each house, also a good cellar. They are plastered throughout and painted, with porches front and back.

In the mines a new line of six-inch steam pipe, 1,000 feet long, covered with H. W. Johns' solid asbestos cement, and has been laid to the pumps. The locomotive tracks have been relaid with fifty-pound T-rails instead of the thirty pounds ones. Several tunnels have been driven, and a great deal of timbering has been done to increase the safety of the workmen.

At Vulcan colliery two water tube boilers, of the Sterling type 135 horse power, each, have been put in place. This company, the Mill Creek Coal Company, installed an additional pair of 26x36-inch hoisting engines to hoist the coal from the lower lift on the west track No. 1 slope. This had become necessary in order to keep up their tonnage. The slope has been sunk another lift, to the fourth, and a tunnel driven on the third lift, north, 689 feet, cutting the Seven Foot and Skidmore veins, bottom, middle and top split members of the Mammoth vein, north dip.

At the Hammond colliery, the Buck Mountain, or No. 2 slope, has been sunk another lift to the third lift below water level, a distance of 300 feet. The west gangway is being driven, from which a tunnel will be driven south to cut the overlying veins.

At Silver Brook colliery, four new jigs have been put in the breaker; also, a line of elevators to convey coal direct to the boilers. The drainage at this colliery has been greatly improved during the year. At the eastern end of basin, an opening has been driven to the surface to serve as an inlet to ventilate all the workings east of the slope, which also serves as an escape outlet for the men. At the western end of basin, an opening has been driven to the surface as an inlet to ventilate all the workings west of the slope, and also as an escape outlet for the men.

A slope has been sunk, 800 feet long, dip, 5 degrees, in western

end of stripping basin. This end of basin is 150 feet wide and 1,600 feet long; vein, 50 feet thick, good Mammoth coal.

At Shenandoah City colliery, an air compressor was built near to head of shaft and two air locomotives put inside, one hauling from the top of the subterraneous Buck Mountain slope to bottom of shaft, and the other is used in the first lift, east gangway, of this slope.

At Tunnel Ridge colliery, an air compressor was built on surface to give power to an air locomotive inside, which has taken the place of mule power. These locomotives have proved a complete success in all the collieries into which they have been installed in this district.

A tunnel is being driven from the north to the south dip, across the basin, about 2,000 feet east of tunnel ridge slope, which, when completed, will be over 200 feet long.

A new pump has also been put in place, size 12x48 inches, double acting.

At Boston Run colliery, a tunnel is being driven from the Holmes vein, north dip, which has already cut the Primrose on the same dip. It is in 355 feet and will be continued to the Primrose south dip.

At Mahanoy City colliery, a tunnel has been driven, 219 feet long, from the west bottom split gangway, third lift, south dip, to top split, south dip, and a new breaker has been built.

The hoisting slope has been sunk to the third lift and the coal is hoisted in gunboats.

A new pair of engines has been installed, taking the place of the old ones; size, 28x60 inches, first motion, with twelve-foot drum.

A new pump 12x48 inches.

At North Mahanoy colliery, a new force fan has been erected on top of the old Schuylkill shaft; diameter, 21 feet, which takes the place of three fans.

A tunnel has been driven from North Mahanoy basin to Yatesville basin. This is a continuation of top split tunnel, north dip.

An inside slope has been sunk, 600 feet long, from the eighth lift of the Schuylkill section to the basin in the Buck Mountain vein.

At St. Nicholas colliery, a new underground slope has been sunk, 330 feet in length, in the Mammoth vein, south dip, and a tunnel driven across the basin, 465 feet long, to Buck Mountain vein, north dip.

At Oneida colliery, Oneida No. 1 slope has been relaid with 60-pound rails, and the roads all through the second lift have been revised with the intention of installing air haulage, which was put in operation during the year.

A Norwalk and three-stage compressor has been erected at the shaft hoisting engine, and the air motor installed. The air motor (compressing 300 cubic feet of air per minute at atmospheric pressure, to a pressure of 960 pounds per square inch) is a departure of the

general type. The greatest obstacle to the installation of air haulage was mostly the great weight and length of the air motors necessary by reason of placing spacious receptacles on the track, which carried the machinery of the motor. This increased the size of the motor so considerably in length and width, that it generally required the remodeling of the gangways in which the motor was to be used; besides, the use was limited to a certain distance past the last charging station on pipe line, which was an item of considerable expense and constant maintenance.

These obstacles to an economical installation, they tried to overcome by adopting the inside connected motor and an independent tank or tender, which carried an extra supply of air. By this it was possible to reduce the actual outside dimensions of the motor to the size of a mine car, and the motor and tender will now take any curve and run over any track over which two coupled up mine cars will run.

One of the principal objections to the adoption of this type was the question of keeping the inside connected motor in proper condition, examining and cleaning it as is necessary for inside work. This objection was overcome by simply providing a commodius stall with a large pit to enable the engineer, without any "doubling up" or being in mud, to examine and clean the engine.

The motor was designed and built by Porter & Co., Pittsburgh, is a perfect piece of machinery and is giving every satisfaction. It is run on 30-pound rails, and no difficulty has been experienced with it.

Operators who had installed air motors and were bothered by the length of such motors ahead of the charging station, will realize what it means when the Oneida motor and its auxiliary tank (about equal to the length of two mine cars), ran outside on a trial trip eight and one-half miles, or from Oneida No. 1 slope to Oneida No. 6 slope and back, and then had about 450 pounds of working pressure left in the auxiliary tank.

The pipes are laid on the high side of the gangway, from three to four feet above the top of rail, and running under the platforms of the different breasts which are in progress, and, therefore, are out of the way of all damage by loading from high platforms into the car; also considerable more room is gained on the high side of gangway, which is the passing side.

The air supply line, consisting of 5-inch pipe, tested to 1,800 pounds pressure, and to carry 850 pounds, which is the pressure carried in the motor and auxiliary tank. The charging stations are placed on center of track, so that motor and tank can be charged without shifting the train, and it does not matter whether the motor stands right or left, as a "Y" is in use connecting at foot of shaft to get the cars in front of the engine. The motor is alternately

changing its position, one trip running forward, the next trip running backward, so that the position of the charging station had to be central; if not, two charging stations would have been required at each point.

At present they are handling with this one motor, assisted by one mule at the foot of the shaft and one mule in the face of one gangway, 170 to 190 cars per shift. This could be increased at least 50 per cent. if necessary, but this production is the allotment, dividing the work between the three Oneida slopes.

A tunnel has been driven on the second level of Oneida No. 1 slope, between the two Buck Mountain gangways, from the north side to the south side of basin. The Mammoth vein was reached and the Wharton vein developed. Gangways are in progress now in these veins, while at the same time, the bottom level, in which about three-quarters of a mile of gangway had been driven years ago, has been retracked, so that work will be resumed on the level again, which had been idle for the last five years.

At No. 2 slope, a slope, No. 4, has been started at the point where the basin again takes the eastern dip.

At No. 3 slope the breasts became so long on the west side (more than 500 feet), that it was considered necessary to either construct a plane from the intermediate level to the present working level, or to drive a slope to surface and handle the cars outside. The latter having been decided upon, the D., S. & S. tracks were extended from Slope No. 3 to Slope No. 6, which is a new slope, on which a hoisting engine and boiler have been erected, and the slope is now ready for operation.

Examination of Applicants for Mine Foreman's Certificates.

The annual examination for mine foreman's certificates was held in Pottsville. The examiners were William Stein, Mine Inspector; William H. Lewis, superintendent; Michael Brennan and Michael McCarthy, miners.

The following are the names of the successful candidates, who were each granted a certificate for mine foreman:

William Hewitt, St. Nicholas.
Edward A. Dougherty, Shenandoah.
George Bush, Girardville.
John Nolter, Mahanoy City.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Sixth Anthracite District for 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Bear Ridge,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Buster Run,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Diamer	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Ellangowan,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Grand Mammoth,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Gilberton,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Harrisburg,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Indian Ridge,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Kaskenbacker,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Kohinoor	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Mahanoy City,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Major Hill,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
North Mahanoy,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Saint Nicholas,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Suffolk,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Shenandoah City,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Turkey Run,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Tunnel Ridge,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
West Shenandoah,	Schuylkill,	Phila. and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Packer No. 2,	Schuylkill,	Lehigh Valley Coal Co.,	W. A. Lathrop,	Wilkes-Barre, Pa.
Packer No. 3,	Schuylkill,	Lehigh Valley Coal Co.,	W. A. Lathrop,	Wilkes-Barre, Pa.
Packer No. 4,	Schuylkill,	Lehigh Valley Coal Co.,	W. A. Lathrop,	Wilkes-Barre, Pa.
Packer No. 5,	Schuylkill,	Lehigh Valley Coal Co.,	W. A. Lathrop,	Wilkes-Barre, Pa.
Primrose,	Schuylkill,	Lehigh Valley Coal Co.,	W. A. Lathrop,	Wilkes-Barre, Pa.
Oneida No. 1 slope,	Schuylkill,	The Cross Creek Coal Co.,		
Oneida No. 2 slope,	Schuylkill,	The Cross Creek Coal Co.,		
Oneida No. 3 slope,	Schuylkill,	The Cross Creek Coal Co.,		
Henry Clay No. 4,	Schuylkill,	Lehigh and Wilkes-Barre Coal Co.,	W. J. Richards.	
Henry Clay No. 5,	Schuylkill,	Lehigh and Wilkes-Barre Coal Co.,	W. J. Richards.	
Vulcan,	Schuylkill,	Mill Creek Coal Co.,	P. S. Jones,	New Boston, Pa.
Buck Mountain,	Schuylkill,	Mill Creek Coal Co.,	P. S. Jones.	
Kehley's Run,	Schuylkill,	Thomas Coal Co.,	Thomas Baird,	Shenandoah, Pa.
Park No. 2,	Schuylkill,	Lentz & Co.,	Edward Reese.	
Silver Brook,	Schuylkill,	Silver Brook Coal Co.,		
William Penn,	Schuylkill,	Susquehanna Coal Co.,	Morris Williams,	Wilkes-Barre, Pa.
Cambridge,	Schuylkill,	Cambridge Coal Co.,	J. C. McGinnis,	Frackville, Pa.
Furnace,	Schuylkill,	M. A. Gerber & A. S. Seaman,	M. A. Gerber,	Tamaqua, Pa.
Lawrence,	Schuylkill,	Lawrence Coal Co.,	W. J. Miller.	Frackville, Pa.
Steddart,	Schuylkill,	Steddart Coal Co.,	Jed. J. Hollenbeck,	Pottsville, Pa.
Brookwood,	Schuylkill,	Brookwood Coal Co.,	Henry Meyers,	Minersville, Pa.
Star washery,	Carbon,	Tyler & McTurk Coal Co.,	W. R. McTurk,	320 Walnut st., Phila.
Grandville,	Schuylkill,	W. R. McTurk & Co.,	W. R. McTurk,	320 Walnut st., Phila.
Carson,	Schuylkill,	The Carson Coal Co.,	H. C. Rissinger,	Audenried, Pa.

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Bear Ridge,	John Veith,	Pottsville,	George Scott,	William D. Evans,	F. P. Dawson.
Boston Run	John Veith,	Pottsville,	Reese Tasker,	Thomas Coan,	M. Morgan.
Draper,	John Veith,	Pottsville,	George Scott,	John Matthews,	W. R. Brown.
Ellangowan,	John Veith,	Pottsville,	Reese Tasker,	John Brown,	John Weiler, Sr.
Girard Mammoth,	John Veith,	Pottsville,	M. Jas. Wilson,	Charles Harlor,	William Buckley.
Gilberton,	John Veith,	Pottsville,	George Scott,	George Thomas,	J. W. Tiley.
Hammond,	John Veith,	Pottsville,	George Scott,	David Fulton,	John Hayley.
Indian Ridge,	John Veith,	Pottsville,	George Scott,	William Mitchell,	Albert Smith. A. H. Sterner.
Knickerbocker,	John Veith,	Pottsville,	Reese Tasker,	John Balliett,	Jos. P. Knapp.
Kohinoor,	John Veith,	Pottsville,	George Scott,	R. McDonald,	D. H. Landenman.
Mahanoy City,	John Veith,	Pottsville,	Reese Tasker,	George Gilgour,	A. Wingert.
Maple Hill,	John Veith,	Pottsville,	Reese Tasker,	Ed. M. Coyle,	Charles E. Frank.
North Mahanoy,	John Veith,	Pottsville,	Reese Tasker,	Gottlieb Skeath, James Walsh,	A. Ferguson.
Saint Nicholas,	John Veith,	Pottsville,	Reese Tasker,	David Jones,	A. Ferguson.
Suffolk,	John Veith,	Pottsville,	Reese Tasker,	David Adamson,	Wm. A. Sauerbrey.
Shenandoah City,	John Veith,	Pottsville,	George Scott,	Silas Frost. Fred. Care,	Marshal Baugh.
Turkey Run,	John Veith,	Pottsville,	George Scott,	Edward Doherty, John M. Morgan,	Peter Schaar.
Tunnel Ridge,	John Veith,	Pottsville,	Reese Tasker,	Thomas Eltringham, Mike Bradley,	J. R. Reed.
West Shenandoah,	John Veith,	Pottsville,	George Scott,	David Morgan,	A. R. Gable.
Packer No. 2,	Osmond Rickert,	Lost Creek,		John T. Jones,	John P. Brennan.
Packer No. 3,	Osmond Rickert,	Lost Creek,		Patrick C. Fenton,	C. C. Williams.
Packer No. 4,	Osmond Rickert,	Lost Creek,		James Heaton,	John B. Kernan.
Packer No. 5,	Osmond Rickert,	Lost Creek,		Morgan W. Price,	Samuel Fahringer.
Primrose,	Osmond Rickert,	Lost Creek,		James A. O'Donnell,	Charles J. A. Lynn.
Oneida No. 1 slope,	Luther C. Smith,	Drifton, Pa.,		Thomas McNamara.	
Oneida No. 2 slope,				Christ. Miller.	
Oneida No. 3 slope,				Tobias Serivell.	
Honey Brook No. 4,	Geo. B. Hadesty,		John Mack,	Charles Crouse,	J. A. Bayley.
Honey Brook No. 5,				William O. Davies,	H. W. Mader.
Valean,	P. S. Jones,	New Boston,	J. Elmer Jones,	James Reese,	Valentine Myers.
Buck Mountain,				R. J. Evans,	John E. Griffith.
Kehley's Run,				John Schwind,	John Keiper.
Park No. 2,				Jas. Goldsworthy,	James Reese.
				Evan Jenkins,	W. A. Sayder.
Silver Brook,	James Long,	Silver Brook, Pa.,		Shadrach Reese,	John Dunlap.
William Penn,	Robert A. Quinn,	Shaft, Pa.,		Michael Golden,	Charles Singley.
Cambridge,				D. R. James,	J. C. McGinnis.
Furnace,				Thomas James,	William Meyer.
Lawrence,				Robert Coxen,	Albert Rubrecht.

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Stoddart,					
Brookwood,	Charles Meyers,	Mt. Hope, Pottsville,			George H. Reese.
Star washery,	W. I. Heiser,	Hazleton, 624 N. Vine st.			E. M. Tiley.
Girardville,	E. I. Phillips,	Girardville,			John Chrystie.
Carson,					H. E. Rissinger.

TABLE II—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Sixth Anthracite District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Phila. and Reading Coal and Iron Co.												
Bear Ridge,	Schuylkill, ...	77,016	19,734	1,733	98,283	151.75	215	.....	1	758	2,977	49
Boston Run,	Schuylkill, ...	123,955	22,956	299	147,207	189.75	297	2	1	1,345	27,842	45
Draper,	Schuylkill, ...	178,349	15,527	484	194,160	185.90	479	.....	.....	2,755	23,351	54
Ellangowan,	Schuylkill, ...	296,609	37,049	532	334,190	186.15	1,153	6	6	12,508	8,482	108
Girard Mammoth,	Schuylkill, ...	83,401	18,007	798	102,206	172.70	262	.....	.....	1,287	2,237	49
Gilberton,	Schuylkill, ...	139,085	45,710	2,605	247,400	175.60	558	6	3	1,581	30,401	51
Hammond,	Schuylkill, ...	158,759	25,762	4,519	184,020	184.55	451	2	3	2,909	12,292	64
Indian Ridge,	Schuylkill, ...	162,657	19,226	8,147	190,070	162.80	577	.....	6	5,049	4,096	54
Knickerbocker,	Schuylkill, ...	240,967	22,304	1,275	273,546	164.75	694	3	1	4,938	32,050	56
Kohinoor,	Schuylkill, ...	119,727	19,507	.....	139,634	188.95	463	1	1	3,128	1,206	48
Mahanoy City,	Schuylkill, ...	141,187	36,149	25,804	203,140	183.55	567	4	8	5,106	4,033	51
Maple Hill,	Schuylkill, ...	422,996	22,564	21	445,581	187.05	985	8	2	13,478	10,678	97
North Mahanoy,	Schuylkill, ...	292,817	44,613	1,709	339,139	189.05	981	5	6	8,410	10,842	90
Saint Nicholas,	Schuylkill, ...	185,646	32,720	261	218,627	164.65	574	3	2	4,390	23,255	75
Suffolk,	Schuylkill, ...	270,673	20,721	1,144	292,538	181.75	739	1	.....	8,564	6,118	82
Shenandoah City,	Schuylkill, ...	191,636	46,524	19,686	257,246	175.60	761	2	4	6,148	5,716	56
Turkey Run,	Schuylkill, ...	116,927	9,935	.....	125,962	179.80	408	6	4	2,222	3,374	47
Tunnel Ridge,	Schuylkill, ...	331,114	36,718	.....	367,832	189.35	918	3	1	6,735	26,224	79
West Shenandoah,	Schuylkill, ...	140,171	22,547	12	162,730	182.70	477	.....	3	5,001	3,334	48
Total,	.....	3,835,992	517,999	69,020	4,422,912	3,395.80	11,650	52	52	97,312	237,508.5	1,193
Thomas Coal Co.												
Kehley's Run,	Schuylkill, ...	83,174	3,631	446	86,651	195	253	1	2	1,851	10,750	31

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes, tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Mill Creek Coal Co.												
Vulcan	Schuylkill, ...	159,988	14,917	.....	174,905	184	304	.....	3	4,880	2,375	34
Black Mountain	Schuylkill, ...	185,777	17,785	.....	173,562	172	337	2	4	4,531	1,829	36
Total	.....	345,765	32,702	.....	348,467	356	641	2	7	9,411	4,204	70
Lentz & Co.												
Part No. 2	Schuylkill, ...	262,208	32,943	692	295,843	179	688	.....	2	5,619	2,000	105
Silver Brook Coal Co.												
Silver Brook	Schuylkill, ...	188,400	15,000	1,480	204,880	246	452	1	.....	1,988	10,800	28
Susquehanna Coal Co.												
William Penn	Schuylkill, ...	220,851	49,232	1,815	271,898	243	728	1	7	7,342	12,065	85
The Cross Creek Coal Co.												
Orange Nos. 1, 2 and 3 slopes,	Schuylkill, ...	242,004	36,536	2,108	281,588	256	618	1	1	5,758	8,994	79
Lehigh and Wilkes-Barre Coal Co.												
Honey Brook No. 4	Schuylkill, ...	187,529	48,196	2,667	224,392	262	647	1	1	5,192	21,476	75
Honey Brook No. 7	Schuylkill, ...	179,767	28,270	.....	218,017	171	852	.....	7	3,737	48,111	62
Total	.....	367,296	76,466	2,667	442,409	333	1,499	1	8	8,929	70,547	137
Cambridge Coal Co.												
Cambridge	Schuylkill, ...	39,328	1,072	2,027	42,427	172	117	.....	.....	1,250	3,000	8
Gerber & Seaman.												
Fairmont	Schuylkill, ...	41,987	1,800	.....	43,787	119	97	.....	.....	770	5,400	10
Lawrence Coal Co.												
Lawrence	Schuylkill, ...	91,788	17,270	1,957	110,995	258	302	5	1	1,166	33,450	31

Lehigh Valley Coal Co.													
Packer No. 2,	Schuylkill,	150,692	25,360	1,177	177,229	208	359	.....	2	1,613	19,935	42
Packer No. 3,	Schuylkill,	200,538	23,493	1,542	225,573	207	352	2	17	3,475	5,636	51
Packer No. 4,	Schuylkill,	51,594	11,782	27	63,403	93	379	1	3	1,055	2,055	47
Packer No. 5,	Schuylkill,	211,923	26,628	5,726	244,277	204	655	1	4	4,799	18,653	69
Primrose,	Schuylkill,	97,511	9,997	2,695	110,205	127	451	1	4	1,897	5,817	72
Total,		712,258	97,260	11,167	820,685	839	2,407	5	20	12,839	52,096	272
Stoddart Coal Co.												
Stoddart,	Schuylkill,	57,282	2,027	.....	59,909	211	74	.....	.....	.....	.....	9
Brookwood Coal Co.												
Brookwood,	Schuylkill,	21,782	993	.....	22,775	75	21	.....	.....	.....	.....	1
McTurk & Co.												
Star washery,	Carbon,	38,892	1,575	300	40,767	193	144	.....	.....	.....	.....	6
McTurk & Co.												
Girardville,	Schuylkill,	24,843	857	13	25,193	99	44	.....	.....	.....	.....	.....
Carson Coal Co.												
Carson,	Schuylkill,	16,639	1,250	.....	17,889	125	101	.....	1	.....	.....	3
Grand total,		6,550,988	568,271	94,042	7,213,301	7,198.80	19,905	72	99	154,169	450,914	2,068

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TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.					Locomotives.		Number of steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.	Steam.	Air.							
Phila. and Reading Coal and Iron Co.															
Bear Ridge	Schuylkill,	36	1,080	2	300	1,380	1	.....	8	765	6	2,880	690	.....	.....
Boston Run	Schuylkill,	.....	.....	12	1,800	1,800	1	.....	6	820	4	2,000	1,220	.....	.....
Draper	Schuylkill,	.....	.....	8	1,200	1,200	.....	.....	8	620	3	2,205	775	.....	.....
Ellangowan	Schuylkill,	.....	.....	12	1,800	1,800	2	.....	11	825	7	4,170	920	.....	.....
Girard Mammoth	Schuylkill,	22	660	3	450	1,110	.....	.....	5	190	6	1,920	560	.....	.....
Gilberton	Schuylkill,	.....	.....	16	2,400	2,400	.....	.....	8	843	†	2,395	775	.....	.....
Hammond	Schuylkill,	36	1,080	2	300	1,380	1	.....	5	310	4	1,920	1,000	.....	.....
Indian Ridge	Schuylkill,	.....	.....	8	1,200	1,200	1	.....	13	705	2	1,340	1,150	.....	2
Knickerbocker	Schuylkill,	20	600	10	1,500	2,100	2	.....	9	725	4	3 600	1,100	.....	.....
Kohinoor	Schuylkill,	8	240	8	1,200	1,440	1	.....	12	689	†	990	480	.....	8
Mahanoy City	Schuylkill,	.....	.....	16	2,400	2,400	.....	.....	16	700	6	4,110	1,220	.....	.....
Maple Hill	Schuylkill,	18	540	12	1,800	2,340	.....	.....	7	860	†	2,220	590	.....	4
North Mahanoy	Schuylkill,	.....	.....	16	2,400	2,400	.....	.....	13	670	5	7,200	2,750	.....	6
Saint Nicholas	Schuylkill,	18	540	8	1,200	1,740	2	.....	12	1,310	6	4,000	1,200	.....	.....
Suffolk	Schuylkill,	18	540	4	600	1,140	1	.....	5	492	.....	.....	.....	.....	.....
Shenandoah City	Schuylkill,	12	360	10	1,500	1,860	1	2	6	340	3	2,280	800	.....	5
Turkey Run	Schuylkill,	12	360	2	300	660	1	.....	6	648	1	270	150	.....	.....
Tunnel Ditch	Schuylkill,	.....	.....	14	2,100	2,100	.....	1	9	1,200	4	2,560	2,080	.....	.....
West Shenandoah	Schuylkill,	16	480	.....	.....	480	.....	.....	5	530	11	4,420	1,620	.....	.....
Total,		216	6,480	163	24,450	30,930	14	3	158	12,532	69	50,070	19,070	.....	25
Thomas Coal Co.															
Kehley's Run	Schuylkill,	24	500	.....	.....	500	1	.....	9	445	2	1,290	967	.....	.....
Mill Creek Coal Co.															
Vulcan	Schuylkill,	20	1,200	1	40	1,490	.....	.....	17	1,345	1	1,000	650	.....	.....
				2	250										
Buck Mountain	Schuylkill,	32	1,760	.....	.....	1,760	3	2	16	1,525	1	1,000	650	.....	1
Total,		52	2,960	3	290	3,250	3	2	33	2,860	2	2,000	1,300	.....	1

Lentz & Co.																
Park No. 2,	Schuylkill,	....	33	1,320	8	2,000	3,320	2	.....	2	100	4	5,100	1,700	.....	.....
Silver Brook Coal Co.																
Silver Brook,	Schuylkill,	....	2	100	8	1,250	1,350	2	.....	18	1,692	13	11,550	6,200	.....	.....
Susquehanna Coal Co.																
William Penn,	Schuylkill,	....	53	1,060	6	750	1,910	1	.....	19	1,380	5	3,000	2,000	.....	.....
The Cross Creek Coal Co.																
Oneida Nos. 1, 2 and 3 slopes,	Schuylkill,	....	24	2,160	19	1,475	3,635	5	1	25	2,279	15	7,962	7,166	1	1
Lehigh and Wilkes-Barre Coal Co.																
Honey Brook No. 4,	Schuylkill,	....	32	960	6	1,140	2,100	2	.....	8	610	4	5,160	.....	.....	.....
Honey Brook No. 5,	Schuylkill,	....	47	1,350	13	780	2,100	5	.....	18	1,265	2	1,640	.....	.....	.....
Total,			79	2,310	19	1,920	4,200	7	.....	26	1,875	6	6,800	.....	.....	.....
Cambridge Coal Co.																
Cambridge,	Schuylkill,	....	2	80	1	45	125	1	.....	5	125	.....	.....	.....	.....	.....
Gerber & Seaman.																
Furnace,	Schuylkill,	....	7	82	4	224	306	.....	.....	10	213	1	50	30	.....	.....
Lawrence Coal Co.																
Lawrence,	Schuylkill,	....	.....	.....	14	2,100	2,100	.....	.....	7	620	8	1,777	.....	.....	.....
Lehigh Valley Coal Co.																
Packer No. 2,	Schuylkill,	.....	9	374	4	793	1,167	1	.....	33	1,533	2	1,052	898	.....	.....
Packer No. 3,	Schuylkill,	....	27	1,509	.....	.....	1,509	2	.....	38	1,768	2	766	646	.....	.....
Packer No. 4,	Schuylkill,	....	27	1,494	3	105	1,599	2	.....	23	1,596	3	2,000	1,722	.....	.....
Packer No. 5,	Schuylkill,	....	35	1,174	.....	.....	1,174	2	.....	33	2,103	2	702	570	.....	.....
Primrose,	Schuylkill,	....	.....	.....	10	1,344	1,344	.....	.....	36	2,591	3	2,059	1,743	.....	.....
Total,			98	4,531	17	2,242	6,793	7	.....	163	9,591	12	6,585	5,579	.....	.....
Stoddart Coal Co.																
Stoddart,	Schuylkill,	....	4	120	2	205	325	.....	.....	13	305	.....	.....	.....	.....	.....
Brookwood Coal Co.																
Brookwood,	Schuylkill,	....	4	100	1	30	.....	.....	.....	2	130	2	.....	.....	.....	.....
McTurk & Co.																
Star washery,	Carbon,	.....	3	.....	.....	225	225	.....	.....	4	150	1	602	.....	.....	.....
McTurk & Co.																
Girardville,	Schuylkill,	....	.....	.....	2	160	160	.....	.....	8	172	.....	.....	.....	.....	.....
Carson Coal Co.																
Carson,	Schuylkill,	....	.....	.....	3	280	280	.....	.....	8	200	.....	.....	.....	.....	.....
Grand total,			601	21,803	798	37,646	59,409	43	6	510	14,669	140	87,386	42,012	1	26

*Water hoisted in tanks through Gilberton water shaft. †Water hoisted in tanks through water shaft.

TABLE III—Showing the number of each class of employes at each colliery in the Sixth Anthracite District during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers, and clerks.	All other employes.	Total outside.	Grand total, inside and outside.
Thomas Coal Co.																
Kehley's Run,	3	1	56	58	6	4	5	133	1	5	10	58	2	44	120	253
Mill Creek Coal Co.																
Vulcan,	1	1	126	37	10	6	14	195	1	6	14	59	4	25	109	304
Buck Mountain,	1	1	132	33	19	1	25	212	1	7	25	65	5	22	125	337
Total,	2	2	258	70	29	7	39	407	2	13	39	124	9	47	234	641
Lentz & Co.																
Park No. 2,	2	2	190	160	44	6	84	488	1	16	28	102	3	50	200	688
Silver Brook Coal Co.																
Silver Brook,	1	1	30	15	11	2	43	103	3	10	15	154	4	164	350	453
Susquehanna Coal Co.																
Williams Penn,	1	5	241	73	27	7	128	482	1	12	30	107	6	90	246	728
The Cross Creek Coal Co.																
Oneida,	3	.....	192	22	26	18	93	354	1	.....	30	110	1	122	264	618
Lehigh and Wilkes-Barre Coal Co.																
Honey Brook No. 1,	2	2	137	86	30	12	148	411	1	7	31	108	.....	84	234	645
Honey Brook No. 2,	3	2	127	44	21	8	323	528	2	31	54	100	10	113	307	835
Total,	5	4	264	124	51	20	471	939	3	38	85	208	10	197	541	1,480

Cambridge Coal Co.																
Cambridge,	1	.....	32	28	2	1	2	66	1	2	4	26	1	15	49	115
Gerber & Seaman.																
Furnace,	1	1	15	10	4	.....	6	37	1	3	8	28	1	19	60	97
Lawrence Coal Co.																
Lawrence,	1	1	61	84	13	9	47	216	1	8	22	84	2	59	176	392
Lehigh Valley Coal Co.																
Packer No. 2,	1	2	69	63	12	3	59	210	1	8	14	47	2	68	140	350
Packer No. 3,	1	4	123	109	23	8	89	357	1	9	16	75	2	92	195	552
Packer No. 4,	1	4	83	38	17	3	70	216	1	8	14	59	2	79	163	379
Packer No. 5,	1	6	155	100	25	3	120	410	1	26	14	98	2	124	265	675
Primrose,	1	3	126	25	34	8	82	279	1	6	11	68	2	84	172	451
Total,	5	20	556	335	111	25	420	1,472	5	57	69	347	10	447	935	2,407
Stoddart Coal Co.																
Stoddart,	.....	.....	.....	.....	.....	.....	.....	.....	1	2	7	15	2	47	74	74
Brookwood Coal Co.																
Brookwood,	.....	.....	.....	.....	.....	.....	.....	.....	1	1	3	3	2	11	21	21
McTurk & Co.																
Star washery,	.....	.....	.....	.....	.....	.....	.....	.....	1	2	3	63	2	73	144	144
McTurk & Co.																
Girardville,	.....	.....	.....	.....	.....	.....	.....	.....	.....	2	3	11	2	26	44	44
Carson Coal Co.																
Carson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	3	3	60	2	33	101	101
Phila. and Reading Coal and Iron Co.																
Bear Ridge,	1	3	30	25	10	3	47	119	1	5	15	31	2	42	96	215
Boston Run,	1	3	59	25	17	4	117	226	1	5	21	60	2	82	171	397
Draper,	1	6	110	24	26	3	118	288	1	4	17	94	2	64	182	470
Ellangowan,	1	10	323	269	53	13	123	792	1	8	24	206	5	117	361	1,153
Girard Mammoth,	1	1	64	1	16	3	53	139	1	5	15	53	1	48	123	262
Gilberton,	1	7	124	35	22	1	122	312	1	8	33	102	2	100	246	558
Hammond,	1	5	83	26	8	3	96	222	1	10	26	109	2	81	229	451
Indian Ridge,	1	4	119	101	35	10	80	350	2	9	26	110	4	76	227	577
Knickerbocker,	1	8	143	92	18	11	114	387	1	9	24	172	5	96	307	694
Kohinoor,	1	5	159	40	25	8	46	284	1	6	21	94	2	55	179	463
Mahanoy City,	1	2	179	50	28	5	101	366	1	5	20	84	4	87	201	567
Maple Hill,	1	12	305	118	65	17	158	676	1	8	28	145	3	124	309	985
St. Nicholas,	1	4	96	152	23	.....	128	404	.....	6	14	73	2	75	170	574
Suffolk,	1	6	213	101	26	14	139	500	1	8	18	78	3	131	239	739
Shenandoah City,	2	5	183	139	19	7	154	509	1	7	22	137	3	82	252	761
Turkey Run,	2	3	111	82	20	8	73	299	1	4	11	43	2	48	109	408
Tunnel Ridge,	2	6	213	116	57	21	193	608	1	9	24	182	4	90	310	918

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.									Occupations of Persons Employed Outside.							Grand total, inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employees.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers, and clerks.	All other employees.	Total outside.	
Wood Shepherd,	1	4	122	56	22	10	95	310	1	7	11	58	3	61	166	476
North Mahanoy,	1	4	240	182	48	29	196	681	1	8	20	155	4	112	300	981
Total,	2	8	2,856	1,634	538	170	2,153	7,472	19	131	390	2,066	55	1,557	4,178	11,650
Grand total,	48	135	4,771	2,613	862	269	3,491	12,169	42	305	749	3,506	111	3,020	7,736	19,905

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Thomas Coal Co.													
Kehley's Run,	14.25	10.25	15.50	13	10	17.25	16.50	20.50	20	20.25	19.25	19	196
Mill Creek Coal Co.													
Vulcan,	18.8	11.5	9.9	7.5	12.2	15.8	17.6	15	19.2	20.1	17	19.6	184.2
Buck Mountain,	17.1	9.4	8.5	9.1	12.9	15.6	16.1	12.3	16.1	15.2	13	17	162.3
Average,	17.95	10.45	9.2	8.3	12.55	15.7	16.85	13.65	17.65	17.65	15	18.3	178
Lentz & Co.													
Park No. 2,	17.45	9.45	8	8.5	9.50	12.45	15.5	14	16.65	17.15	14.10	16.55	159
Silver Brook Coal Co.													
Silver Brook,	22.7	15.5	17.8	15	15	20.7	21.2	23.6	21.4	22.6	24	20.6	240
Susquehanna Coal Co.													
William Penn,	21.95	11.95	20.10	17.45	18	19.60	18.20	18	17.25	17.75	17	16	213
The Cross Creek Coal Co.													
Oneida,	16	13	18	14	16	17	16	23	24	33	30	26	246
Lehigh and Wilkes-Barre Coal Co.													
Honey Brook No. 4,	15.4	7	15	13	19.3	13.8	.....	12.4	12.6	16.9	18	19	162
Honey Brook No. 5,	14	8.5	17.5	17.7	0.8	7.8	20.4	14.7	14.4	19.2	17.6	18.7	171
Average,	14.7	7.75	16.75	15.35	10.05	10.8	10.2	13.55	13.5	18.5	17.8	18.85	167

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Cambridge Coal Co.													
Cambridge,	17.50	10.8	14.6	8.9	10.50	13.2	13.3	15.8	16.1	18.6	16.9	18.2	172.40
Gerber & Seaman.													
Furnace,	18.4	8.6	17.1	13.50	13.25	19.9	20	18	17.2	18.3	16.50	17.9	188.40
Lawrence Coal Co.													
Lawrence,	23	17.50	22.7	15.50	14.1	19.4	9.50	24.6	23.9	23	22	23	238
Lehigh Valley Coal Co.													
Packer No. 2,	14.9	12.3	12.8	11.6	14	16	23.2	17.4	22.6	23.5	17.1	22.3	208.40
Packer No. 3,	16.9	12.1	12	10.4	13.4	19.4	22.3	17.8	21	23.3	18.2	20.9	207.55
Packer No. 4,	8.2	.....	.....	.....	.....	.....	.....	17.4	16.6	20.4	14.1	16.9	93.30
Packer No. 5,	17.6	12.1	11.7	11.5	12.6	19.4	22.1	13.9	20.2	22.8	19.2	20.6	204.35
Primrose,	16.5	2.6	1.8	.....	.....	.....	.....	18.4	21.6	22.8	23.3	22.3	127.15
Average,	98.82	8.45	7.6	6.7	8	10.96	13.5	16.98	20.4	22.56	18.38	20.6	168
Stoddart Coal Co.													
Stoddart,	18 3	11.6	20.5	14.9	16.6	17.9	21.9	23.6	11.8	23.3	17.3	14.3	212
Brookwood Coal Co.													
Brookwood,	12	5	.....	10	.....	10	10	16	10	.....	.....	1	75
M. Tark & Co.													
Starrucca,	17 2	10.3	14.8	14.3	22.2	4.8	20.2	16.1	22.2	17.6	22.5	10.7	193.45

McTurk & Co.													
Girardville,	.....	.....	10.3	15.2	5.6	.....	.....	6	16.2	18.2	15	13.3	99.40
Carson Coal Co.													
Carson,	4.3	6.7	8.5	12.1	.....	.....	19.2	14.1	15.6	19.1	15.2	10.2	125
Phila. and Reading Coal and Iron Co.													
Bear Ridge,	12	8	9	6.50	9.75	13.75	12.75	13.25	12.25	19.50	17.75	17.25	151.75
Boston Run,	18	11.25	14.25	9.75	10.50	13.90	14.95	17.10	19.15	23.40	20.10	17.40	189.75
Draper,	18	11.35	13.80	9.40	9.30	14.25	15.75	16.80	19.5	21.35	20.30	15.85	185.75
Ellangowan,	18	10.30	13.85	9	10.50	14.25	14.50	16.40	18.95	22.10	20.5	16.95	186.25
Girard Mammoth,	17.85	8.90	12.85	9.75	10	14.25	11.50	16.85	18.10	19.5	16.55	16.35	172
Gilberton,	18	11.60	13.50	9.75	10.50	14.25	14.65	16.80	20.10	22.70	20.20	17.40	189.35
Hammond,	17.5	10.30	13.50	9.75	9.80	14.25	15.25	16.45	19.25	21.55	19.75	16.40	182.75
Indian Ridge,	17.50	9.80	12.30	9	10.50	14.10	13.35	16.45	17.75	22.10	16.65	16.10	175.60
Knickerbocker,	17.65	10	12.75	9	10.50	13.95	15	17.10	18.60	22.45	20.55	16.90	184.55
Kohinoor,	15.95	10.5	13.25	9	10.25	14.25	12.40	15.45	16.20	18.15	14.10	13.75	162.80
Mahanoy City,	17.65	13.25	14.20	9.75	.....	.....	14	17	19.50	23.10	19	17.70	184.75
Maple Hill,	17.55	11.40	13.75	9	9.75	14.25	15	17.25	19.95	23.40	20.75	18.10	188.85
St. Nicholas,	18	8.60	12.65	9.75	10.50	14.25	15.20	17.25	19.55	22.25	20.10	16.95	187.15
Suffolk,	18	10.30	13.95	9.75	10.50	14.25	15.20	17.25	19.55	23.20	20.10	16.95	189.5
Shenandoah City,	17.10	9.85	13.05	9.40	9.80	14.5	13.20	15.40	19.10	22.35	19	16.5	179.80
Turkey Run,	14.75	8.20	12.25	9	10.35	13.10	13.45	15.75	17.25	18.35	16.65	16.10	164.65
Tunnel Ridge,	18	11.65	13.45	9.75	10.50	14.25	15.75	17.15	18.75	19	16.50	16.30	181.75
West Shenandoah,	16.90	10.85	14.5	9	10.75	13	13.35	16.30	17.60	20.85	16.65	16.5	175.60
North Mahanoy,	17.15	8.45	13.35	9.75	10.50	14.25	15.20	17.25	18.95	22.70	18.80	16.80	183.55
Average,	17.5	10.15	13.20	9.50	9.60	13	14.20	15.40	18.35	21.55	18.60	16.50	176

TABLE IV—List of fatal accidents that occurred in and about the mines of the Sixth Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 3.	Mike Brunzo,	Miner,	31	M.	1	....	Packer No. 3,	Schuylkill, ...	Accidentally fell down a hole used for letting down timber.
5.	Robert Cray,	Bottom man,	24	S.	....	....	Hammond,	Schuylkill,	Struck by prop coming down slope.
11.	Frank Wertz,	Machinist,	50	M.	1	7	North Mahanoy,	Schuylkill,	Struck by a runaway dumper at the foot of the dirt plane.
14.	George Rubins,	Miner,	35	S.	....	....	Maple Hill,	Schuylkill,	Leg injured; died from the results.
19.	Joseph Plesky,	Miner,	27	S.	....	....	St. Nicholas,	Schuylkill,	Coal fell on him as he was starting to drill a hole.
20.	Michael Stanskey,	Miner's laborers,	40	M.	1	2	North Mahanoy,	Schuylkill,	Struck by a piece of top coal.
20.	Wm. Kalavage,	Laborer,	26	S.	....	....	Knickerbocker,	Schuylkill,	While looking at a battery it rushed and caught him at foot prop.
20.	Anthony Joyce,	Driver,	20	S.	....	....	Turkey Run,	Schuylkill,	While he was getting on wagon the spreader caught his leg and threw him under the wagons.
23.	John Doyle,	Miner,	38	M.	1	7	William Penn,	Schuylkill,	Cut match too short, resulting in premature explosion of blast.
25.	Robert Grafton,	Miner,	50	M.	1	2	Gilberton,	Schuylkill,	Explosion of gas.
25.	Anthony Nedzinskie,	Miner,	32	M.	1	2	Gilberton,	Schuylkill,	Explosion of gas.
Feb. 22.	Joseph Kuchua,	Laborer,	28	M.	1	1	Audenried No. 4,	Schuylkill,	Fall of top rock.
23.	Thomas Simuns,	Miner,	52	M.	1	....	Buck Mountain,	Schuylkill,	A piece of coal fell on him, breaking his back.
25.	Anthony Bendrick,	Miner,	40	M.	1	4	St. Nicholas,	Schuylkill,	He fell off car on slope and rolled down.
Mar. 1.	Joseph Seplaskus,	Miner,	26	M.	1	1	Maple Hill,	Schuylkill,	Killed by a blast.
4.	Joseph Anchokites,	Miner,	20	S.	....	....	Maple Hill,	Schuylkill,	Instantly killed by a fall of coal.
9.	John Stuffen,	Loader,	24	M.	1	....	Mahanoy City,	Schuylkill,	Explosion of gas.
9.	Stephen Seleskey,	Miner,	39	M.	1	....	Mahanoy City,	Schuylkill,	Explosion of gas.
12.	Anthony Smalleck,	Miner,	33	M.	1	2	Turkey Run,	Schuylkill,	Explosion of gas.
21.	Louis Barne,	Miner,	38	S.	....	....	Knickerbocker,	Schuylkill,	Piece of coal fell from top.
27.	Arch. Sheppel,	Dirt man,	21	S.	....	....	Maple Hill,	Schuylkill,	Locomotive passed over his legs.
April 10.	John Ward,	Miner,	67	M.	1	1	Silver Brook Coal Co.,	Schuylkill,	Powder exploded by miner pushing needle in holes and striking dualin cap.
14.	Daniel Purnell,	Driver,	19	S.	....	....	Boston Run,	Schuylkill,	While getting on bumper of car his foot slipped and he fell under the car.

May	3,	Andrew Lewlas,	Miner,	20	S.	....	....	Maple Hill,	Schuylkill,	Explosion of gas.
	5,	Henry Chesona,	Laborer,	23	S.	....	....	Turkey Run,	Schuylkill,	While loading a buggy a fall of top coal occurred and buried him under it.
	5,	Bernard Sucolskie,	Miner,	28	S.	....	....	Turkey Run,	Schuylkill,	While loading a buggy a fall of top coal occurred and buried him under it.
	22,	Jacob Beltz,	Patcher,	18	M.	1	....	Buck Mountain,	Schuylkill,	Car jumped the track and knocked out three sets of timber, part of which fell and killed him.
	24,	Michael Olitis,	Platform man,	46	M.	1	....	Ellangowan,	Schuylkill,	Bumped by mine wagons on tip.
June	2,	Simon Maffia,	Miner,	23	S.	....	....	Lawrence,	Schuylkill,	Fell down slope.
	8,	Frank Harley,	Laborer,	30	M.	1	....	Audenried No. 4,	Schuylkill,	Rush of coal.
	12,	Amil Amernack,	Miner,	36	M.	1	3	Kohinoor,	Schuylkill,	Fall of coal.
	12,	John Chestnut,	Bottom man,	30	M.	1	....	Gilberton,	Schuylkill,	Crushed between mine cars.
	13,	Joe Melracavage,	Miner,	21	S.	....	....	Gilberton,	Schuylkill,	Explosion of powder caused by spark from driver's lamp.
	16,	George Murer,	Miner,	35	M.	1	2	Audenried No. 4,	Schuylkill,	Fall of top coal.
	19,	Ruben Urbansky,	Miner,	34	M.	1	5	Maple Hill,	Schuylkill,	Fall of coal.
	27,	Peter Shooko,	Miner,	38	M.	1	3	Ellangowan,	Schuylkill,	A piece of slate fell and caught him between rib and slate.
	28,	Frank Ansavage,	Miners' laborer,	28	M.	1	3	Kehley Run,	Schuylkill,	Fall of coal.
July	10,	Casper Shilginsty,	Laborer,	25	S.	....	....	North Mahanoy,	Schuylkill,	Fall of rock.
	15,	Joe Stanavage,	Miner,	36	M.	1	....	Suffolk,	Schuylkill,	Killed by a shot exploding prematurely.
	24,	Michael McDonald,	Miner,	35	M.	1	5	Packer No. 5 shaft,	Schuylkill,	Shot.
	28,	John Short,	Laborer,	27	W.	....	1	Ellangowan,	Schuylkill,	Piece of coal fell on him.
	29,	Michael Merosky,	Laborer,	30	S.	....	....	Tunnel Ridge,	Schuylkill,	Piece of coal fell from top.
Aug.	1,	George Demshock,	Laborer,	28	S.	....	....	Ellangowan,	Schuylkill,	Shot went off too soon.
	7,	Alfred Owens,	Driver,	25	M.	1	3	Packer No. 3,	Schuylkill,	Neck broken by falling from a mule.
	8,	John McHugh,	Miner,	39	M.	1	1	Audenried No. 4 colliery,	Schuylkill,	Fall of dividing slate.
	9,	William Cuff,	Curve boy,	16	S.	....	....	Hammond,	Schuylkill,	Car jumped the track and caught him against a timber.
	14,	Chas. Wiskers,	Miner,	30	S.	....	....	Turkey Run,	Schuylkill,	The cartridge he prepared was too large for the hole and he was forcing it with drill, when it exploded.
	31,	Frank Oswalt,	Driver,	18	S.	....	....	North Mahanoy,	Schuylkill,	Caught between wagon and rib.
Sept.	5,	Adam Plicknick,	Miner,	40	M.	1	1	Maple Hill,	Schuylkill,	Fall of coal.
	11,	Herbert Spadkuskie,	Miner,	40	M.	1	....	Ellangowan,	Schuylkill,	Shot exploded in heading.
	11,	Joseph Fellin,	Driver,	22	S.	....	....	Oneida slope No. 3,	Schuylkill,	Squeezed by mine cars.
	20,	Daniel Blackwell,	Dump man,	43	M.	1	8	Tunnel Ridge,	Schuylkill,	Fell down counter chute.
Oct.	5,	Joseph Koeufskie,	Laborer,	29	M.	1	....	Boston Run,	Schuylkill,	Fall of rock.
	9,	William Malofsky,	Laborer,	38	M.	1	2	Primrose,	Schuylkill,	Fall of rock.
	9,	John Lesko,	Miner,	37	M.	1	....	Mahanoy City,	Schuylkill,	Explosion of gas.
	16,	Joe Koveleskie,	Miner,	23	S.	....	....	Shenandoah City,	Schuylkill,	Kicked by mule.
	17,	Adam Suplinskie,	Miner,	40	M.	1	....	Shenandoah City,	Schuylkill,	Explosion of gas.
	18,	Peter Grim,	Miner,	37	M.	1	....	St. Nicholas,	Schuylkill,	Shot exploded.
	23,	Alex. Saditus,	Laborer,	33	M.	1	1	Gilberton,	Schuylkill,	Fall of coal.
	29,	Adam Slimalla,	Miner,	40	M.	1	....	Ellangowan,	Schuylkill,	Fall of coal.
Nov.	2,	Joseph Jones,	Slate picker,	15	S.	....	....	Mahanoy City,	Schuylkill,	Caught in breaker machine.
	4,	Gus. Cantavich,	Laborer,	24	S.	....	....	Lawrence,	Schuylkill,	Smothered by a rush of culm and surface from breach.
	4,	Michael Drabig,	Laborer,	35	M.	1	1	Lawrence,	Schuylkill,	
	4,	George Lutsha,	Laborer,	30	M.	1	3	Lawrence,	Schuylkill,	
	4,	George Baxia,	Miner,	25	S.	....	....	Lawrence,	Schuylkill,	
	4,	Michael Lubick,	Miner,	32	M.	1	2	Turkey Run,	Schuylkill,	Struck by piece of coal.
	20,	George Townsend,	Driver,	20	S.	....	....	Gilberton,	Schuylkill,	Drowned in water shaft.
	21,	Frank Nause,	Laborer,	23	S.	....	....	North Mahanoy,	Schuylkill,	Fall of rock.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Nov. 23.	Charles Sevitsky, ...	Miner, ...	36	M.	1	5	Maple Hill, ...	Schuylkill, ...	Explosion of powder.
Dec. 1.	Adam Lescavage, ...	Miner's laborer, ..	25	S.	....	....	Tunnel Ridge, ...	Schuylkill, ...	Rush of coal down chute.
6.	Henry O'Brien, ...	Foot man, ...	22	S.	....	....	Packer No. 4, ...	Schuylkill, ...	Breaking of slope rope.
14.	Joseph Mascitus, ...	Bottom man, ...	20	S.	....	....	Knickerbocker, ...	Schuylkill, ...	Squeezed by mine cars.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Sixth Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 16,	Anthony Rocoski,	Laborer,	21	S.	Packer No. 4,	Schuylkill,	Fall of coal; leg cut off.
16,	Anthony Miller,	Miner,	30	S.	Gilberton,	Schuylkill,	Leg broken by fall of coal.
17,	Edward Brown,	Miner,	35	M.	Shenandoah City,	Schuylkill,	Leg broken by fall of rock.
26,	Martin Scally,	Miner,	45	M.	William Penn,	Schuylkill,	Back and leg injured by piece of coal falling on him.
Feb. 16,	Wm. Jerimich,	Driver,	19	S.	Buck Mountain,	Schuylkill,	Arm broken by car jumping the track and knocking a set of timber out.
21,	Henry Fry,	Fire boss,	41	M.	Knickerbocker,	Schuylkill,	Face, neck and hands burned by burning coal in breast chute.
21,	Hugh Friel,	Miner,	58	M.	Vulcan,	Schuylkill,	Two ribs broken by fall of coal.
Mar. 1,	John Fedral,	Ash man, outside,	37	M.	Honey Brook No. 5,	Schuylkill,	Mule fell on his leg and broke it.
2,	John Cray,	Driver,	19	S.	Packer No. 5,	Schuylkill,	Arm broken by being caught between mine car and post of breaker.
8,	Walter Cuminsky,	Miner,	28	S.	Maple Hill,	Schuylkill,	Right leg cut off; fall of coal.
9,	Patrick Brennan,	Driver,	17	S.	Mahanoy City,	Schuylkill,	Leg broken; explosion of gas.
9,	John Junket,	Miner,	40	M.	Mahanoy City,	Schuylkill,	Hands and face burned by explosion of gas.
9,	Bernard Sloan,	Miner,	37	S.	Mahanoy City,	Schuylkill,	Arm bruised by explosion of gas.
9,	John Mills,	Miner,	47	M.	Mahanoy City,	Schuylkill,	Face cut by explosion of gas.
9,	George Barlta,	Loader,	24	S.	Mahanoy City,	Schuylkill,	Hand and face burned by explosion of gas.
10,	Peter Pratcanius,	Miner,	35	S.	Kehley Run,	Schuylkill,	Right hand blown off at the wrist by dynamite exploding.
10,	Law. Killkullin,	Slate picker,	14	S.	Gilberton,	Schuylkill,	Arm and legs broken by falling under railroad car.
13,	John Crockuskie,	Laborer,	30	M.	Turkey Run,	Schuylkill,	Face, hands and back burned by explosion of gas.
17,	Michael Albert,	Miner,	36	M.	North Mahanoy,	Schuylkill,	Head and back injured by fall of coal.
April 5,	Enoch Copara,	Miner,	30	S.	Indian Ridge,	Schuylkill,	Face, hands and back burned by powder.
5,	Thomas Lannon	Miner,	31	S.	Indian Ridge,	Schuylkill,	Burned on hands, face and neck by powder.
7,	Andrew Howanitz,	Laborer,	40	M.	Wm. Penn,	Schuylkill,	Severe contusion and fracture of pelvic bone by fall of clay.
12,	Michael Beranshaw,	Miner,	32	M.	Honey Brook No. 5,	Schuylkill,	Right leg broken and hand crushed by fall of coal.
18,	Andro Lakitski,	Miner,	28	S.	Gilberton,	Schuylkill,	Leg fractured by rush of coal.
19,	John Suscavage,	Miner,	37	S.	Packer No. 3,	Schuylkill,	Blast caused a piece of coal to fly out, which struck his leg and broke it.
24,	Condy Herron,	Miner,	45	S.	Honey Brook No. 5,	Schuylkill,	Leg broken by fall of top coal.
May 17,	John Vanshifski,	Miner,	32	S.	Indian Ridge,	Schuylkill,	Face and hands burned by powder explosion.
June 5,	Thomas Ostravage,	Laborer,	23	S.	Tunnel Ridge,	Schuylkill,	Leg broken by fall of coal.

TABLE V——Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
June 8,	John Marchnick,	Laborer,	33	M.	Park No. 2,	Schuylkill,	Leg broken and head cut by fall of slate.
9,	John Sagley,	Laborer,	28	M.	Vulcan,	Schuylkill,	Arm cut off above elbow by piece of falling clod.
9,	Michael Garritty,	Driver,	23	S.	Packer No. 2,	Schuylkill,	Leg broken by piece of falling coal.
12,	Lawrence Priestla,	Miner,	45	M.	St. Nicholas,	Schuylkill,	Slightly burned on face and hands by explosion of gas.
12,	Peter Cape,	Miner,	52	M.	St. Nicholas,	Schuylkill,	Slightly burned on face and hands by explosion of gas.
15,	Matt. Baresa,	Miner,	35	M.	West Shenandoah,	Schuylkill,	Fired a shot and was caught, causing his leg to be broken and head bruised.
17,	Jacob Van Blargen,	Engineer,	....	M.	Oneida,	Schuylkill,	Struck on the side of jaw, fracturing one side and breaking the other, by a sledge hammer.
19,	Stiney Sheva,	Miner,	24	S.	West Shenandoah,	Schuylkill,	Leg broken by piece of coal falling on it.
20,	Frank Cudashick,	Miner,	38	M.	Park No. 2,	Schuylkill,	Squeezed between timber and mine car.
26,	Patrick Garrity,	Loader,	24	M.	West Shenandoah,	Schuylkill,	Leg broken by piece of coal falling on it.
28,	Charles Walsh,	Miner,	37	M.	Gilberton,	Schuylkill,	Ribs and shoulder bone broken and injured about the body by piece of coal falling on him.
July 5,	Patrick Gallagher,	Rock bank driver,	20	S.	Packer No. 5,	Schuylkill,	Leg bruised by being bumped by empty rock dumper.
6,	Peter Yocum,	Laborer,	38	M.	Turkey Run,	Schuylkill,	Head and arm injured by piece of coal falling on him.
6,	John Messacavage,	Miner,	27	M.	Packer No. 3,	Schuylkill,	Slight hurt on head and arm by shot exploding before he could get away.
10,	Frank Koalic,	Laborer,	42	M.	Carson washery,	Schuylkill,	Right arm fractured, head cut and body squeezed by being caught in scraper line.
13,	Michael Postovick,	Miner,	38	M.	Mahanoy City,	Schuylkill,	Face and hands burned by blast.
13,	Miles Richards,	Miner,	45	M.	North Mahanoy,	Schuylkill,	Burned on the face and hands by explosion of gas
15,	John Barshwood,	Stripping foreman,	30	M.	Audenried No. 4,	Schuylkill,	Fractured knee cap by falling down stripping bank.
15,	Frank Budashofskie,	Miner,	32	S.	Ellangowan,	Schuylkill,	Leg broken by fall of coal.
Aug. 1,	David Wall,	Miner,	25	M.	Ellangowan,	Schuylkill,	Face and head injured by blast.
2,	Henry Quinock,	Miner,	35	M.	Turkey Run,	Schuylkill,	Side injured and injured internally by fall of coal.
22,	Mike Rittle,	Miner,	26	S.	Ellangowan,	Schuylkill,	Neck, hands, face and back injured by explosion of gas.
23,	Christ. Rooney,	Laborer,	18	S.	Packer No. 2,	Schuylkill,	Fracture of knee by being caught between cars.
30,	Simon Milkitis,	Miner,	43	M.	Bear Ridge,	Schuylkill,	Hip bone broken by fall of coal.
Sept. 1,	Joseph Gegolas,	Miner,	23	M.	Packer No. 2,	Schuylkill,	Burned about face and body by explosion of gas

	1,	Martin Boliskie,	Laborer,	25	S.	Packer No. 3,	Schuylkill,	Body and face burned by explosion of gas.
	4,	Joe Quitcufsky,	Timber man,	25	S.	Packer No. 3,	Schuylkill,	Leg broken by fall of coal.
	4,	Thomas Llewellyn,	Miner,	43	M.	Kehley Run,	Schuylkill,	Left arm broken by flying coal.
	12,	Patrick McAvoy,	Laborer,	45	M.	Honey Brook No. 5,	Schuylkill,	Arm broken and hip fractured by blast.
	18,	Frank O'Boyle,	Miner,	49	M.	Boston Run,	Schuylkill,	Leg fractured by falling coal.
	20,	John Kenney,	Driver,	18	S.	Hammond,	Schuylkill,	Breast and back squeezed by falling under dumper.
	29,	Jos. Welcufski,	Miner,	35	M.	Hammond,	Schuylkill,	Leg broken by piece of slate.
	30,	Mike Bultroley,	Laborer,	35	S.	Shenandoah City,	Schuylkill,	Leg and rib broken by fall of coal.
	30,	Edward Hub,	Miner,	43	M.	Mahanoy City,	Schuylkill,	Hip and ankle dislocated by fall of slate.
Oct.	7,	John Liptoe,	Miner,	30	M.	Buck Mountain,	Schuylkill,	Slightly burned about face and hands by explosion of gas.
	7,	Frank Golinski,	Miner,	32	S.	Buck Mountain,	Schuylkill,	Hands slightly burned by explosion of gas.
	7,	John Boxer,	Jig tender,	16	S.	Packer No. 3,	Schuylkill,	Head cut and body squeezed by falling from railway above jig.
	9,	Patrick Ginley,	Slate picker,	16	S.	Packer No. 5,	Schuylkill,	Squeezed about hips; caught between mine car and pile of plank.
	9,	George Lesko,	Miner,	42	M.	Mahanoy City,	Schuylkill,	Face and hands burned by explosion of gas.
	10,	John Conrack,	Laborer,	24	S.	Honey Brook No. 5,	Schuylkill,	Right leg broken by falling under rock truck.
	11,	Frank Trocum,	Miner,	38	M.	North Mahanoy,	Schuylkill,	Scalp lacerated and back and legs bruised by falling down manway.
	11,	Christ. Schlunmer,	Spragger,	18	S.	Ellangowan,	Schuylkill,	Leg broken by being caught between mine wagons.
	15,	Ellwood Reese,	Carpenter,	35	M.	Primrose,	Schuylkill,	Feet bruised by a piece of iron shafting falling on them.
	17,	Joseph Kelates,	Laborer,	25	S.	Shenandoah City,	Schuylkill,	Hands and face burned by explosion of gas.
	17,	Matt. Meckoned,	Laborer,	23	S.	Shenandoah City,	Schuylkill,	Hands and face burned by explosion of gas.
	19,	John Sterinski,	Miner,	28	M.	Buck Mountain,	Schuylkill,	Wrist broken and hand lacerated by blast.
	25,	Matt. Pavloski,	Laborer,	23	M.	Wm. Penn,	Schuylkill,	Hands and face burned by explosion of gas.
	25,	William Hosler,	Driver,	20	S.	Primrose,	Schuylkill,	Hips bruised by being caught betweeen door and mine car.
	25,	Patrick Hogan,	Ashman,	32	S.	Packer No. 4,	Schuylkill,	Two ribs broken by falling off mule.
	26,	Alfred Holloway,	Miner,	53	M.	North Mahanoy,	Schuylkill,	Hands, face and neck slightl yburned by explosion of gas.
	27,	Patrick Garvey,	Miner,	38	M.	Hammond,	Schuylkill,	Leg broken by falling coal.
Nov.	3,	John Nogot,	Laborer,	45	S.	Honey Brook No. 5,	Schuylkill,	Right leg broken by rush of coal.
	6,	Joseph Seneda,	Miner,	30	M.	Ellangowan,	Schuylkill,	Hands, face and neck burned by explosion of gas.
	6,	Simon Subish,	Miner,	38	S.	Ellangowan,	Schuylkill,	Hands, face and neck burned by explosion of gas.
	8,	Frank Handy,	Miner,	40	M.	Vulcan,	Schuylkill,	Hands severely cut by blast.
	10,	John Grabolskie,	Miner,	35	S.	Indian Ridge,	Schuylkill,	Leg broken and head cut by falling slate.
	13,	John Petuskie,	Laborer,	19	S.	Packer No. 4,	Schuylkill,	Left arm injured by falling coal.
	14,	Anthony Smith,	Laborer,	24	S.	Lawrence,	Schuylkill,	Leg broken; bumped between cars.
	14,	Andy Bann,	Buggy loader,	21	S.	Packer No. 5,	Schuylkill,	Jaw broken and body bruised by falling coal.
	24,	Anthony Mozitas,	Miner,	38	M.	Turkey Run,	Schuylkill,	Leg fractured by fall of rock.
Dec.	2,	Joseph Maydoz,	Miner,	40	M.	Honey Brook No. 5,	Schuylkill,	Face and hands burned by powder explosion
	11,	Michael Boteskie,	Miner,	30	M.	Indian Ridge,	Schuylkill,	Hips and back injured by fall of coal.
	11,	David Williams,	Miner,	25	M.	Primrose,	Schuylkill,	Hands and neck burned by explosion of gas.
	12,	Anthony Bellas,	Miner,	24	S.	Wm. Penn,	Schuylkill,	Compound fracture of pelvis and lacerated wounds of head and face by fall of coal.
	13,	Joseph Wilcavag,	Miner,	35	M.	Maple Hill,	Schuylkill,	Head and back injured by fall of coal.
	15,	John McCullough,	Miner,	30	S.	North Mahanoy,	Schuylkill,	Face and hands burned by explosion of gas.
	15,	Bernard Gibney,	Miner,	27	M.	North Mahanoy,	Schuylkill,	Face and hands burned by explosion of gas.
	21,	Andro Kroe,	Miner,	26	S.	Primrose,	Schuylkill,	Hands and head cut by falling coal from blast.

TABLE V—Continued.

Date of Accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Dec. 21.	Charles Groshick, ...	Laborer, ...	26	M.	Indian Ridge, ...	Schuylkill, ...	Arm and back cut and bruised by falling coal from blast.
27.	John Witkowski, ...	Slope man, ...	19	S.	Wm. Penn, ...	Schuylkill, ...	Fracture of skull by car leaving track and striking him.
28.	John Shernefski, ...	Laborer, ...	24	M.	Honey Brook No. 5, ...	Schuylkill, ...	Spine injured by falling rock.

Seventh Anthracite District.

NORTHUMBERLAND, COLUMBIA SCHUYLKILL AND DAUPHIN COUNTIES.

Shamokin, Pa., February 23, 1900.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor to herewith present my annual report for the year ending December 31, 1899, as Inspector of Coal Mines for the Seventh Anthracite District of Pennsylvania.

The report contains the usual tables and statistics, with some remarks pertaining to accidents, coal production, etc.

Very respectfully,

EDWARD BRENNAN,
Inspector.

Production of Coal in Tons During the Year 1899.

Philadelphia and Reading Coal and Iron Company, ..	2,526,238.00
Lehigh Valley Coal Company, ...	236,382.18
The Union Coal Company, ...	857,749.15
Mineral Railroad and Mining Company, ...	595,993.04
Summit Branch and Lykens Valley Coal Companies, .	729,757.04
Excelsior Coal Company, ...	211,724.12
T. M. Righter & Co., ...	181,660.13
Shamokin Coal Company, ...	58,857.05
Enterprise Coal Company, ...	152,214.00
Shipman Koal Company, ...	64,648.07
Girard Coal Company, ...	84,898.00
White & White, ...	33,903.18
Royal Oak Coal Company, ...	49,690.09
J. Langdon & Co., Incorporated, ...	149,269.13
Midvalley Coal Company, ...	375,346.05
Total, ...	6,308,334.03

22-10-99

The total production was made up as follows:

Shipped by railroad to market,	5,456,091.11
Sold to local trade and used by employes,	122,121.14
Used for steam and heat at collieries,	730,120.18
Total,	6,308,334.03

TABLE A—Showing Production of Coal, Number of Persons Employed by Each Company during the Year 1899, and the Average Number of Tons Produced per Employe.

Names of Companies.	Number of tons produced.	Number of persons employed.
Philadelphia and Reading Coal and Iron Company,	2,526,238.00	7,059
Lehigh Valley Coal Company,	236,382.18	685
The Union Coal Company,	857,749.15	3,179
Mineral Railroad and Mining Company,	595,993.04	2,305
Summit Branch and Lykens Valley Coal Companies,	729,757.04	2,390
Excelsior Coal Company,	211,724.12	542
T. M. Righter & Co.,	181,660.13	350
Shamokin Coal Company,	58,857.05	1,024
Enterprise Coal Company,	152,214.00	475
Shipman Koal Company,	64,648.07	300
Girard Coal Company,	84,898.00	265
White & White,	33,903.18	152
Royal Oak Coal Company,	49,690.09	177
J. Langdon & Co., Incorporated,	149,269.13	468
Midvalley Coal Company,	375,346.05	1,006
Total,	6,308,334.03	20,317

TABLE B—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
Philadelphia and Reading Coal and Iron Company,	18	140,347
Lehigh Valley Coal Company,	6	39,397
The Union Coal Company,	6	142,959
Mineral Railroad and Mining Company,	4	148,999
Summit Branch and Lykens Valley Coal Companies,	6	121,627
Excelsior Coal Company,	2	105,862
T. M. Righter & Co.,	1	181,660
Shamokin Coal Company,		
Enterprise Coal Company,	1	152,214
Shipman Koal Company,		
Girard Coal Company,		
White & White,		
Royal Oak Coal Company,	2	24,845
J. Langdon & Co., Incorporated,	4	37,318
Midvalley Coal Company,	2	187,673
Total,	52	121,315

TABLE C—Showing the Number of Fatal and Non-Fatal Accidents, and the Number of Tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Number of tons of coal produced per accident.
Philadelphia and Reading Coal and Iron Company,	45	56,139
Lehigh Valley Coal Company,	9	26,265
The Union Coal Company,	23	37,294
Mineral Railroad and Mining Company,	15	39,732
Summit Branch and Lehigh Valley Coal Companies,	11	52,126
Excelsior Coal Company,	4	52,931
T. M. Righter & Co.,	6	30,277
Shamokin Coal Company,	2	29,428
Enterprise Coal Company,	3	50,738
Shipman Koal Company,	1	64,648
Girard Coal Company,	3	28,299
White & White,	1	33,904
Royal Oak Coal Company,	2	24,845
J. Langdon & Co., Incorporated,	7	21,325
Midvalley Coal Company,	7	53,620
Total,	142	444,242

TABLE D—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured.	Injured.	Total.
Falls of coal and roof,	43	39	61
Explosions of gas,	2	.....	2
Explosion of blasts	1	8	9
By mules,	.....	5	5
Cars, inside,	4	13	17
Cars, outside,	3	4	7
Falling down shafts and slopes,	3	2	5
Breaker machinery,	4	4	8
Careless use of powder,	3	5	8
Miscellaneous, inside,	3	4	7
Miscellaneous, outside,	5	6	11
Total,	52	90	142

TABLE E—Occupations of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners,	23	43	66
Laborers,	12	15	27
Door boys,	2	2	4
Drivers and helpers,	1	11	12
Outside laborers,	9	8	17
Slate pickers,	2	4	6
Sinkers,	1	.....	1
Hoisting engineers,	1	.....	1
Outside machinists,	1	.....	1
Bottom men,	.....	2	2
Top men,	.....	1	1
Carpenter, outside,	.....	1	1
Total,	52	90	142

TABLE F—Nationality of Persons Killed or Injured.

	American.	English.	Irish.	German.	Scotch.	French.	Poles.	Welsh.	Austrian.	Hungarian.	Total.
Killed,	10	5	9	3	2	.....	16	2	1	4	52
Injured,	26	2	17	9	4	2	21	3	.....	6	90
Total,	36	7	26	12	6	2	36	5	1	10	142

Coal Production for Past Five Years in Seventh District.

	Coal shipped.	Used at collieries and local sales.	Total produced.
1895,	5,715,620	468,922	6,184,542
1896,	4,975,827	618,822	5,594,649
1897,	4,377,761	731,187	5,108,948
1898,	4,331,093	743,741	5,074,834
1899,	5,456,091	852,243	6,308,334
Totals,	24,856,392	3,414,915	28,271,307
Average,	4,971,278	682,983	5,654,261

Accidents for Past Five Years in Seventh District.

	Fatal.	Non-fatal.	Total accidents.
1895,	59	114	173
1896,	76	106	182
1897,	46	119	165
1898,	46	112	158
1899,	52	90	142
Totals,	279	541	820
Average,	56	108	164

By the above tables it will be noticed that the production and shipments for 1899 exceed those of 1898, as follows:

Total production, 1,233,500 tons.

Total shipments, 1,124,998 tons.

Local sales and colliery use, 108,502 tons.

The total product for 1899 represents the high water mark in the coal production of this district, exceeding that of 1895 by 123,792 tons, while in shipments it falls short of that of 1895 only by 258,529 tons.

Casualties.

During the past five years in the Seventh district, there were 279 fatal and 541 non-fatal injuries. The average per year for this period is 56 killed and 164 injured.

My report for 1899 shows 52 killed, being four below the average as given. It is but proper to state that seven of the deaths reported can hardly be termed mine accidents, as they occurred to laborers while not engaged in mining or preparing coal. One of the men was killed by jumping in front of a locomotive, another while uncoupling cars from the locomotive; four men were smothered by a rush of culm from an old abandoned colliery bank, and one was killed while digging a foundation for a stable. These seven deaths make up the number of 52, but it is a question whether they should not have been omitted as not being incident to the mining of coal.

Non-Fatal Accidents.

There have been ninety non-fatal accidents reported for 1899. While this is a much smaller number than has been reported for many years, I feel free to state that over one-half of these accidents occurred through carelessness. To illustrate I will give some of the accidents

arising from carelessness. There were eight injuries from premature blasts, five by being kicked or squeezed by mules, seventeen by being squeezed between mine cars and timber, four by breaker machinery, four by the careless use of powder, and twelve by falls of top or roof. All of these accidents could have been avoided by proper care and watchfulness on the part of the injured. The same may be said of a large number of the fatal casualties.

Improvements.

The usual improvements have been made during the year, such as sinking shafts and slopes, driving tunnels, and putting up new fans. I am pleased to state that the general condition of the collieries under my inspection will compare favorably with that of the past few years.

The drainage, ventilation, outlets and safety of the mines are closely looked after, as it is to the common interests of all parties concerned that these should not be neglected.

Two new breakers have been erected during 1899; one at Locust Gap which will take the place of the Locust Spring and Locust Gap Breakers, soon to be abandoned, and the rebuilding of one at Enterprise, to take the place of one that was blown down in December, 1898. I will here insert a letter from General Manager W. L. Connell, of the Enterprise Coal Company, giving an account of the improvements made at this plant:

"You will observe that our colliery was idle during January, February and part of March, 1899, while rebuilding the breaker, a portion of which was blown down during the storm of December 4, 1898. In rebuilding we have discarded the long plane leading from slope to the head of breaker, and have substituted a shaftway which is one hundred and sixty-nine feet high in which is worked two standard cages; with this arrangement the facilities for handling our output of coal have been greatly improved. We have also installed a new pair of 22″x36″ engines on our main slope. An additional electric motor has been placed in the Mammoth workings, lower lift, which takes the place of about ten mules, at which time our power plant was also improved. We have driven a tunnel from No. 9 vein to No. 10 vein in lower lift on a pitch of twelve degrees striking the No. 10 vein in good condition at a distance of two hundred and fifty feet, and have under way a tunnel from the Skidmore vein lower lift to Buck Mountain vein, which is now in a distance of about two hundred and sixty feet."

Mine Foremen's Examinations.

The annual examination for mine foreman's certificates was held at Pottsville, on June 9 and 10, 1899.

The following constituted the board of examiners: Edward Bren-

nan, Mine Inspector, Shamokin; Andrew Robertson, coal operator, Pottsville; Fred Young, miner, Ashland; Jacob Fleming, miner, Excelsior.

The following were recommended for mine foreman certificates: Jeremiah Adams, Mount Carmel; David O. Blystone, Trevorton; David Beveridge, Mount Carmel; John J. Reardon, Mount Carmel; Charles A. Penman, Mount Carmel; John A. Weir, Strong; Oscar W. Raeder, Mount Carmel; John J. Tobias, Mount Carmel; Isaac Hall, Mount Carmel; Michael Brown, Strong; John L. Davies, Shamokin; John E. Davis, Shamokin; Thomas Bressler; Michael Buckley, Shamokin; Thomas McElwee, Locust Gap; Joseph Connorton, Locust Gap; John P. Williams, Strong; William P. Williams, Strong; Andrew Davis, Mount Carmel.

TABLE I—Showing Names of Operators, etc., etc., and Location of Collieries in the Seventh Anthracite District for 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Burnside,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Bear Valley,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Buck Ridge,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Henry Clay,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Big Mountain,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Sterling,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
North Franklin,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Alaska,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Reliance,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Locust Gap,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Locust Spring,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Monitor,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Merriam,	Northumberland,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Potts,	Columbia,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Keystone Jig,	Columbia,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
East,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Preston No. 3,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Centralia,	Columbia,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Logan,	Columbia,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Big Mine Run,	Schuylkill,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Continental,	Columbia,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Morris Ridge,	Columbia,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Belmore,	Columbia,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Reno,	Columbia,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Montana,	Columbia,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Locust Run,	Columbia,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Hickory Swamp,	Northumberland,	The Union Coal Company,	Morris Williams,	Wilkes-Barre, Pa.
Hickory Ridge,	Northumberland,	The Union Coal Company,	Morris Williams,	Wilkes-Barre, Pa.
Pennsylvania,	Northumberland,	The Union Coal Company,	Morris Williams,	Wilkes-Barre, Pa.
Richards,	Northumberland,	The Union Coal Company,	Morris Williams,	Wilkes-Barre, Pa.
Cameron,	Northumberland,	Mineral Railroad and Mining Company,	Morris Williams,	Wilkes-Barre, Pa.
Luke Fidler,	Northumberland,	Mineral Railroad and Mining Company,	Morris Williams,	Wilkes-Barre, Pa.
Williamstown,	Dauphin,	Summit Branch Coal Company,	Morris Williams,	Wilkes-Barre, Pa.
Short Mountain,	Dauphin,	Lykens Valley Coal Company,	Morris Williams,	Wilkes-Barre, Pa.
Excelsior,	Northumberland,	Excelsior Coal Company.		
Corbin,	Northumberland,	Excelsior Coal Company.		
Mt. Carmel,	Northumberland,	Thomas M. Righter & Co.,	Thomas M. Righter,	Mt. Carmel, Pa.
Natalie,	Northumberland,	Shamokin Coal Company,	Henry Vincent,	Natalie, Pa.
Enterprise,	Northumberland,	Enterprise Coal Company.		
Colbert,	Northumberland,	Shipman Koal Company,	R. K. Gowanlock,	Shamokin, Pa.
Girard,	Northumberland,	Girard Coal Company.		
Columbus No. 2,	Northumberland,	White & White.		
Royal Oak,	Northumberland,	Royal Oak Coal Company.		
Neilson,	Northumberland,	J. Langdon & Co., Incorporated.		
Midvalley No. 1,	Columbia,	Midvalley Coal Company.		
Midvalley No. 2,	Columbia,	Midvalley Coal Company.		

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Burnside,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	John F. Walsh, / Adam Reiland,	D. M. Snyder.
Bear Valley,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	M. E. Purcell,	P. Wendling.
Buck Ridge,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	W. F. Johnson,	W. J. Freeman.
Henry Clay,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	Albert Thompson,	Joseph Keim.
Big Mountain,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	Fred. Honicker,	Nich. Madara.
Stirling,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	Joseph Kopp,	J. Smith.
North Franklin,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	F. W. Luckenbill,	D. A. Weist.
Alaska,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	John Jefferson,	J. W. Morrison.
Reliance,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	John Stein,	Wm. H. Camp.
Locust Gap,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	M. J. Whalen,	M. Cain.
Locust Spring,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	Joseph Beierschmitt,	Thos. Dawson.
Monitor,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	Wm. T. Davies,	J. P. Whalen.
Merriam,	John Veith,	Pottsville, Pa.,	M. T. Schreffler,	John Hinkle,	John Hinkel.
Potts,	John Veith,	Pottsville, Pa.,	George Scott,	John E. Davies, / Thomas Bedow,	Elias Wolfgang.
Keystone Jig,	John Veith,	Pottsville, Pa.,	George Scott,		Wm. M. Roudenbush.
East,	John Veith,	Pottsville, Pa.,	George Scott,	John Costello, / August Hincke,	W. A. Phillips.
Preston No. 3,	John Veith,	Pottsville, Pa.,	George Scott,	Wm. Lewis,	Michael T. Gillespie.
Centralia,	R. S. Mercur,	Centralia, Pa.,	None,	Edwd. Williams, Gen., / Henry J. Weller,	D. M. Levan, General. John Lannet.
Logan,	R. S. Mercur,	Centralia, Pa.,	None,	W. W. Lewis,	W. W. Lewis.
Big Mine Run,	R. S. Mercur,	Centralia, Pa.,	None,	James Farrell, Sr.,	James Farrell, Sr.
Continental,	R. S. Mercur,	Centralia, Pa.,	None,	William Lickie,	Joseph N. Collier.
Morris Ridge,	R. S. Mercur,	Centralia, Pa.,	None,	None,	None.
Bellmore,	R. S. Mercur,	Centralia, Pa.,	None,	None,	None.
Reno,	R. S. Mercur,	Centralia, Pa.,	None,	None,	None.
Montana,	R. S. Mercur,	Centralia, Pa.,	None,	None,	None.
Locust Run,	R. S. Mercur,	Centralia, Pa.,	None,	John J. Payne,	John J. Payne.
Hickory Swamp,	John L. Williams,	Mt. Carmel, Pa.,	Thomas H. Williams,	John H. Reilley,	John H. Hesser.
Hickory Ridge,	John L. Williams,	Mt. Carmel, Pa.,	Thomas H. Williams,	John Howells,	Josiah Rhoades.
Pennsylvania,	John L. Williams,	Mt. Carmel, Pa.,	Thomas H. Williams,	David Hughes,	Joseph Woomer.
Richards,	John L. Williams,	Mt. Carmel, Pa.,	Thomas H. Williams,	Jacob Williams,	James Visick.
Cameron,	E. H. Kohlbraker,	Shamokin, Pa.,	None,	August C. Herr,	Harry S. Morgan.
Luke Fidler,	E. H. Kohlbraker,	Shamokin, Pa.,	None,	Michael Readdy,	Robert E. Stager.
Williamstown,	Hood McKay,	Lykens, Pa.,	None,	Daniel W. Evans,	F. J. Bauer.
Short Mountain,	Hood McKay,	Lykens, Pa.,	None,	John C. Davie,	George R. Haertter.
Excelsior,	A. Robertson,	Pottsville, Pa.,	A. D. Robertson,	John Hodge, / Peter Drumheiser,	Wm. F. Miller.
Corbin,	A. Robertson,	Pottsville, Pa.,	Geo. W. Robertson,	John D. Thomas,	Paul F. Reidley.
Mt. Carmel,				John Conway,	Morgan Davis.
Natalie,				James Bateman,	Isaac Kleese.
Enterprise,	W. L. Connell,	Scranton, Pa.,		Thos. M. Quinn,	James E. Davenport.
Colbert,			E. J. Corliss,	Joseph Ford,	Patrick B. Higgins.

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Girard,	E. M. Jones,	Mt. Carmel, Pa.,		[John Ruffing, / Fred. Schreffler,	William Wragg.
Columbus No. 2,	E. E. White,	Mt. Carmel, Pa.,		Alfred White,	John Rissinger.
Royal Oak,	David R. Morgan,	Shamokin, Pa.,		Daniel T. Griffiths,	George Krish.
Neilson,	Jervis Langdon,	Shamokin, Pa.,		George Steele,	John Wachter.
Midvalley No. 1,	T. E. Snyder,	Wilburton, Pa.,		Robert Taylor,	Thomas Terry.
Midvalley No. 2,	T. E. Snyder,	Wilburton, Pa.,		James Tinley,	H. D. Kostenbaden.

TABLE II—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Seventh Anthracite District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Phila. and Reading Coal and Iron Co.												
Burnside,	Northumberland, ..	202,163.14	27,979	1,872.05	232,014.19	178	648	2	7	5,085	14,446	84
Bear Valley,	Northumberland, ..	163,780.00	9,664	428.10	173,882.10	180.90	442	2	.....	4,298	5,734	60
Buck Ridge,	Northumberland, ..	36,081.13	15,282	134.00	51,497.13	140	143	.....	.....	42	3,698.5	10
Henry Clay,	Northumberland,	312,657.01	38,272	26,018.05	376,947.06	186.10	637	4	6	2,302	11,412.5	186
Big Mountain,	Northumberland,					186.10	483	.....	.....	3,953	8,200	.....
Stirling,	Northumberland,					186.10	396	.....	.....	3,892	3,119	.....
North Franklin,	Northumberland, ..	204,088.11	17,969	4,587.00	226,644.11	180.50	444	.....	2	4,272	15,664.5	53
Alaska,	Northumberland, ..	226,366.18	14,797	161.00	241,324.18	185.95	673	2	1	7,796	10,943.5	84
Reliance,	Northumberland, ..	135,808.13	18,575	9,365.00	163,748.13	170.40	508	2	5	5,726	5,527	52
Locust Gap,	Northumberland, ..	167,222.06	23,276	1,942.00	192,440.06	178.55	415	1	1	2,960	4,077	46
Locust Spring,	Northumberland, ..	162,033.08	12,113	122.00	174,268.08	182.65	637	3	3	4,410	10,213	81
Monitor,	Northumberland, ..	37,795.18	5,580	12.00	43,387.18	115.75	75	.....	.....	559	2,498	9
Merriam,	Northumberland, ..	.....	22,771	10.00	22,781.00	.....	19	.....	.....	.....	.....	.....
Potts,	Columbia,	250,821.09	27,939	4,571.10	283,331.19	184.10	616	.....	1	1,280	56,313	60
Keystone Jig,	Columbia,	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....
East,	Schuylkill,	170,730.12	30,692	4,302.10	205,725.02	185.50	556	.....	1	1,260	29,062	62
Preston No. 3,	Schuylkill,	110,101.17	28,141	.....	138,242.17	185.50	365	2	.....	24	25,012	44
Total,		2,179,662.00	293,050	53,526	2,526,238.00	182	7,059	18	27	47,849	205,950	831

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Lehigh Valley Coal Co.												
Centralia,	Columbia,	212,220.08	18,318	5,834.10	236,382.18	188.30	685	5	1	5,092	20,050.5	90
Locust,	Columbia,							1	2			
Big Mine Run,	Schuylkill,											
Continental,	Columbia,											
Moore's Ridge,*	Columbia,											
Ridlington,*	Columbia,											
Rose,*	Columbia,											
Montana,*	Columbia,											
Locust Run,*	Columbia,											
Total,		212,220.08	18,318	5,834.10	236,382.18	188.30	685	6	3	5,092	20,050.5	90
The Union Coal Co.												
Hickory Swamp,	Northumberland,	85,270.17	7,532	1,089.11	93,892.08	161.30	541	1	1	3,303	6,412	51
Hickory Ridge,	Northumberland,	108,511.06	24,320	1,066.17	133,898.63	158.30	554	.....	.....	3,347	5,796	48
Pennsylvania,	Northumberland,	239,782.19	34,190	7,718.18	281,691.17	197.5	922	4	6	8,981	57,055	93
Richards,	Northumberland,	298,315.13	49,530	421.14	348,267.07	191.95	1,182	1	10	12,312	27,028	102
Total,		731,880.15	115,572	10,297.00	857,749.15	177	3,179	6	17	27,963	96,291	294
Mineral Railroad and Mining Co.												
Cameron,	Northumberland,	341,033.00	12,549	13,372.09	366,954.09	224	1,580	1	6	11,226	23,700	134
Luke Fidler,	Northumberland,	170,904.11	54,930	3,204.04	199,038.15	205.45	725	3	5	4,711	31,740	53
Total,		511,937.11	67,479	16,576.13	595,992.04	215	2,305	4	11	15,937	55,240	187

*Idle.

Summit Branch and Lykens Valley Coal Companies.													
Williamstown,	Dauphin,	273,170.07	78,468.15	7,356	358,995.02	262.35	1,211	5	7	3,900	23,768	115
Short Mountain,	Dauphin,	369,207.19	48,994.03	12,560	370,762.02	270.65	1,179	1	1	3,384	10,757	151
Total,		582,378.06	127,462.18	19,916	729,757.04	266.50	2,390	6	8	7,284	34,525	266
Excelsior Coal Co.													
Excelsior,	Northumberland, ..	142,866.04	6,720	524.04	150,050.08	210	365	1	1	4,225	1,150	52
Corbin,	Northumberland, ..	59,564.04	2,490	.....	61,674.04	209	177	1	1	3,460	3,000	19
Total,		202,390.08	8,810	524.04	211,724.12	209.50	542	2	2	7,685	4,150	71
T. M. Righter & Co.													
Mt. Carmel,	Northumberland, ..	164,068.13	15,755	1,837.00	181,660.13	194	350	1	5	2,615	18,625	40
Shamokin Coal Co.													
Natalie,	Northumberland, ..	57,113.17	675	1,068.08	58,857.05	77	1,024	.....	2	2,700	3,000	32
Enterprise Coal Co.													
Enterprise,	Northumberland, ..	126,263.00	25,550	401.00	152,214.00	134	475	1	2	4,957	8,898	52
Shipman Koal Co.													
Colbert,	Northumberland, ..	58,543.02	4,720	1,385.05	64,648.07	135	390	.....	1	2,015	1,800	30
Girard Coal Co.													
Girard,	Northumberland, ..	76,971.17	7,300	626.03	84,898.00	201	265	.....	3	2,580	6,750	22
White & White.													
Columbus No. 2,	Northumberland, ..	28,882.03	1,304	3,717.15	33,903.18	198.10	152	.....	1	2,400	1,650	10
Royal Oak Coal Co.													
Royal Oak,	Northumberland, ..	43,507.18	3,600	2,582.11	49,690.09	177.50	177	2	.....	1,652	2,050	8
J. Langdon & Co., Incorporated.													
Neilson,	Northumberland, ..	121,704.02	25,000	2,565.11	149,269.13	216.25	408	4	3	1,034	14,250	48
Midvalley Coal Co.													
Midvalley No. 1,	Columbia,	168,509.16	6,900	960.07	176,370.03	158.60	501	2	.....	2,901	28,925	48
Midvalley No. 2,	Columbia,	190,047.15	8,625	303.07	198,976.02	160.90	505	.....	5	5,060	39,275	47
Total,		358,557.11	15,525	1,263.14	375,346.05	160	1,006	2	5	7,961	68,200	95
Grand total,		5,456,091.11	730,120.18	122,121.14	6,308,334.03	†189	26,317	52	90	139,724	541,429.5	2,076

†Average.

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.					Locomotives—steam.	Locomotives—air.	Locomotives—electric.	Number of steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.										
Phila. and Reading Coal and Iron Co.											265	6	2,550	710	.....	.....
Burnside,	Northumberland, ..	.....	.....	14	2,100	2,100	1	.....	.....	7						
Bear Valley,	Northumberland, ..	4	120	6	900	1,020	1	.....	.....	4	645	1	400	240	.....	.....
Buck Ridge,	Northumberland, ..	22	660	.....	.....	660	.....	.....	.....	4	370	3	1,090	620	.....	.....
Henry Clay,	Northumberland,	.....	.....	12	1,800	1,800	3	.....	.....	6	555	6	2,880	1,360	.....	.....
Big Mountain,	Northumberland,	32	960	.....	.....	960	1	.....	.....	6	390	8	3,710	950	.....	.....
Stirling,	Northumberland,	.....	.....	.....	.....	.....	.....	.....	.....	5	460	3	1,240	400	.....	.....
North Franklin,	Northumberland, ..	.....	.....	8	1,200	1,200	.....	.....	.....	7	365	4	1,440	650	.....	.....
Alaska,	Northumberland, ..	18	540	6	900	1,440	.....	1	.....	10	700	5	2,540	630	.....	1
Reliance,	Northumberland, ..	.....	.....	9	1,350	1,350	.....	.....	.....	9	668	8	2,070	430	.....	.....
Locust Gap,	Northumberland, ..	.....	.....	6	900	900	1	.....	.....	4	310	4	2,800	640	.....	.....
Locust Spring,	Northumberland, ..	.....	.....	8	1,200	1,200	1	.....	.....	7	700	5	2,440	680	.....	.....
Monitor,	Northumberland, ..	12	360	.....	.....	360	.....	.....	.....	4	215	.....	.....	.....	.....	.....
Merriam,	Northumberland, ..	.....	.....	8	1,200	1,200	.....	.....	.....	2	145	4	1,920	960	.....	.....
Potts,	Columbia,	.....	.....	12	1,800	1,800	.....	.....	.....	6	1,045	2	1,800	800	.....	.....
Keystone Jig,	Columbia,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
East,	Schuylkill,	32	960	.....	.....	960	1	.....	.....	9	545	4	3,200	840	.....	.....
Preston No. 3,	Schuylkill,	12	360	8	1,200	1,560	.....	.....	.....	4	380	4	2,800	1,060	.....	.....
Total,		132	3,960	97	14,550	18,510	9	1	.....	94	7,758	65	32,880	10,970	.....	1

Lehigh Valley Coal Co.																
Centralia,	Columbia,			9	1,450	1,450	1			32	3,900	2	1,200			
Logan,	Columbia,			4	600	600	1			4	1,200					
Big Mine Run,	Schuylkill,			4	600	600	1									
Continental,	Columbia,															
Morris Ridge,	Columbia,															
Bellmore,	Columbia,															
Reno,	Columbia,															
Montana,	Columbia,															
Locust Run,	Columbia,	17	600			600				1	200	4	1,700			
Total,		17	600	17	2,650	3,250	3			37	5,300	6	2,900			
The Union Coal Co.																
Hickory Swamp,	Northumberland,	10	250	2	180	430				8	310	3	2,408	2,408		
Hickory Ridge,	Northumberland,	13	325	8	1,200	1,525	2			13	670	11	3,445	3,445		
Pennsylvania,	Northumberland,	2	100	12	1,800	1,900	2			24	1,135	11	4,871	3,280		
Richards,	Northumberland,			16	2,400	2,400	1			10	2,737	5	3,870	935		
Total,		25	675	38	5,580	6,255	5			55	4,872	30	14,594	10,068		
Mineral Railroad and Mining Co.																
Cameron,	Northumberland,			17	1,155	1,155	1			16	2,836	11	4,738	4,738		
Luke Fidler,	Northumberland,	6	200	12	1,350	1,550	3			18	3,340					3
Total,		6	200	29	2,505	2,705	4			34	6,176	11	4,738	4,738		3
Summit Branch and Lykens Valley Coal Companies.																
Williamstown,	Dauphin,	72	3,600	17	2,745	6,345	6			47	2,761	18		7,267		
Short Mountain,	Dauphin,	54	2,700	6	925	3,625	4		3	37	2,140	14		3,755	1	
Total,		126	6,300	23	3,670	9,970	10		3	84	4,901	32		11,022	1	
Excelsior Coal Co.																
Excelsior,	Northumberland,	32	640			640	1			14	490	6	1,200			
Corbin,	Northumberland,	10	200			200				6	210	3	1,100			
Total,		42	840			840	1			20	700	9	2,300			
T. M. Righter & Co.																
Mt. Carmel,	Northumberland,	20	500	4	600	1,100	2			40	1,235	6	3,500	2,000		
Shamokin Coal Co.																
Natalie,	Northumberland,	17	454	4	1,000	1,454	2			19	1,520	5	1,583	1,583		
Enterprise Coal Co.																
Enterprise,	Northumberland,	28	1,120	2	300	1,420			2	8	1,084	3	408	408	2	
Shipman Koal Co.																
Colbert,	Northumberland,	5	125	3	375	500				5	475	2	536	536		
Girard Coal Co.																
Girard,	Northumberland,			3	600	600				6	765	3	1,000	400		

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.					Locomotives—steam.	Locomotives—air.	Locomotives—electric.	Number of steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.										
White & White.																
Columbus No. 2,	Northumberland, ..	4	120	.....	.....	120	.....	.....	.....	5	90	.....	.....	.....	.....	.....
Royal Oak Coal Co.																
Royal Oak,	Northumberland, ..	.....	.....	2	120	120	1	.....	.....	3	210	1	.....	.....	.....	.....
J. Langdon & Co., Incorporated.																
Neilson,	Northumberland, ..	12	240	7	700	940	.....	.....	.....	8	.....	6	734	490	.....	.....
Midvalley Coal Co.																
Midvalley No. 1,	Columbia,	.....	.....	7	750	750	2	.....	.....	15	3,955	2	1,800	420	.....	.....
Midvalley No. 2,	Columbia,	.....	.....	6	900	900						2	1,800	420	.....	.....
Total,		.....	.....	13	1,650	1,650	2	.....	.....	15	3,955	4	3,600	840	.....	.....
Grand total,		434	15,134	242	34,300	49,434	39	1	5	433	39,041	183	68,773	43,055	3	4

TABLE III—Showing the number of each class of employes at each colliery in the Seventh Anthracite District during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total, inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers, and clerks.	All other employes.	Total outside.	
Phila. and Reading Coal and Iron Co.																
Burnside,	2	6	218	49	28	12	99	414	1	9	24	84	2	114	234	648
Bear Valley,	1	2	163	26	15	8	68	283	1	5	11	77	1	64	159	442
Buck Ridge,	1	1	32	5	.....	1	22	62	1	3	12	40	1	24	81	143
Henry Clay,	1	3	86	32	26	8	82	232	1	14	26	215	4	145	405	637
Big Mountain,	1	3	193	82	29	5	4	417	1	1	17	.....	2	45	66	483
Stirling,	1	4	174	37	19	5	13	353	1	1	9	.....	1	31	43	396
North Franklin,	1	3	115	39	15	5	81	259	1	1	11	67	1	94	185	444
Alaska,	1	4	258	67	52	21	80	483	1	7	21	94	2	65	190	673
Reliance,	1	3	211	31	20	12	43	321	1	10	21	86	2	73	187	508
Locust Gap,	1	3	123	13	15	6	76	248	1	5	15	86	2	58	167	415
Locust Spring,	1	4	189	33	28	2	133	390	1	9	20	88	2	127	247	637
Monitor,	1	1	16	1	2	.....	11	32	1	2	4	16	1	19	43	75
Merriam,	1	.....	.....	.....	.....	.....	7	8	.....	.....	6	.....	.....	5	11	19
Potts,	2	10	106	72	23	20	138	351	1	4	21	147	3	86	265	616
Keystone Jig,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	1	2	2
East,	2	9	78	26	24	28	171	338	1	6	19	115	2	75	218	556
Preston No. 3,	1	5	47	15	16	14	107	245	1	6	17	72	1	63	160	365
Total,	19	61	2,020	508	306	147	1,335	4,396	16	96	254	1,181	27	1,089	2,663	7,059

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total, inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers, and clerks.	All other employes.	Total outside.	
Lehigh Valley Coal Co.																
Centralia,	2	1	91	31	18	1	57	201	1	12	18	68	8	115	222	423
Logan,	1	1	41	30	10	1	23	107	.....	4	3	.....	1	14	22	129
Big Mine Run,	1	.....	5	15	3	.....	.....	24	.....	1	.....	.....	.....	3	4	28
Continental,	1	1	25	15	2	4	.....	48	1	7	3	.....	1	47	57	105
Locust Run,	.....	.....	1	2	.....	.....	4	7	1	1	4	.....	.....	8	14	21
Bellemere,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morris Ridge,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Reno,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Montana,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	5	3	163	93	33	6	84	387	3	25	28	68	10	185	319	706
Union Coal Co.																
Hickory Swamp,	1	7	170	60	33	13	97	381	1	6	13	55	2	83	160	541
Hickory Ridge,	1	6	141	65	24	3	93	333	1	8	18	76	2	96	201	534
Pennsylvania,	1	15	310	140	41	16	165	688	1	11	32	92	3	95	234	922
Richards,	1	15	430	135	38	21	160	800	1	10	21	150	5	195	382	1,182
Total,	4	43	1,051	400	136	53	515	2,202	4	35	84	373	12	469	977	3,179
Mineral Railroad and Mining Co.																
Camegan,	8	14	595	150	70	30	273	1,140	1	17	28	235	3	156	440	1,580
Luke Fidler,	6	5	257	48	40	9	123	488	1	20	29	95	3	89	237	725
Total,	14	19	852	198	110	39	396	1,628	2	37	57	330	6	245	677	2,305

Summit Branch & Lykens Valley Coal Co.																
Williamstown,	6	5	335	83	51	9	271	760	2	20	57	149	4	225	451	1,211
Short Mountain,	6	5	290	150	97	42	233	823	2	19	35	135	4	161	336	1,179
Total,	12	10	625	233	148	51	504	1,583	4	39	92	284	8	386	807	2,390
Excelsior Coal Co.																
Excelsior Coal Co.,	2	1	128	61	24	3	38	257	1	5	7	46	3	46	108	365
Corbin,	1	8	81	41	12	.....	19	106	1	2	6	30	2	30	71	177
Total,	3	3	209	102	36	3	57	363	2	7	13	76	5	76	179	542
T. M. Righter & Co.																
Mt. Carmel,	1	2	70	46	11	7	45	182	2	4	22	67	4	69	168	350
Shamokin Coal Co.																
Natalie,	1	4	324	181	49	15	61	635	1	17	15	125	6	225	389	1,024
Enterprise Coal Co.																
Enterprise,	1	.....	169	76	49	4	29	328	1	7	19	63	1	56	147	475
Shipman Koal Co.																
Colbert,	1	1	111	14	10	.....	47	184	1	6	7	60	2	40	116	300
Girard Coal Co.																
Girard,	1	4	98	18	16	2	10	149	1	4	9	58	3	41	116	265
White & White.																
Columbus No. 2,	1	1	57	7	26	1	.....	93	1	2	3	33	2	18	59	152
Royal Oak Coal Co.																
Royal Oak,	1	1	87	16	11	2	9	127	1	2	7	15	2	23	50	177
J. Langdon & Co., Incorporated.																
Neilson,	1	8	150	8	25	8	11	283	1	8	17	45	4	50	125	408
Midvalley Coal Co.																
Midvalley No. 1,	2	1	160	78	45	3	50	339	2	7	11	89	7	46	162	501
Midvalley No. 2,	2	2	155	73	31	4	81	348	2	8	10	89	.....	48	157	505
Total,	4	3	315	151	76	7	131	687	4	15	21	178	7	94	319	1,006
Grand total,	69	241	6,301	2,651	1,042	345	3,234	13,283	44	304	638	2,956	99	3,066	7,107	20,317

TABLE III—Continued.

....es of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Ellis and Reading Coal and Iron Co.													
Forrest	16.60	10.25	12.25	9.75	13.50	16.50	15.65	17.15	17	18.30	12.80	17.5	178
Bear Valley	18.65	10.50	9.25	10.15	14.40	16	18	16.30	17.10	19.10	16.10	17.5	181
Buck Ridge	11.85	5.60	6.70	9.75	13.25	16.5	11.90	13.25	12	13	11.15	5.10	140
Henry Clay	17.15	10.30	13.7	10.5	14.25	16.50	17.55	16.55	17.45	18.55	15	17.70	186
Big Mountain	17.15	10.30	13.70	10.50	14.25	16.50	17.55	16.55	17.45	18.55	15	17.70	186
Stuffins	17.15	10.30	13.70	10.50	14.25	16.50	17.55	16.55	17.45	18.55	15	17.70	186
North Franklin	16.60	7.65	11.75	10.35	13.75	16.40	17.40	16.75	17.90	19.75	15.20	17.20	181
Alaska	16.75	12	14.15	9.25	9.75	14	14.65	17.10	17.45	23.10	20.30	17.5	186
Refugee	13.95	10.60	12.45	9	9	13.25	14.10	15.25	17.05	21.35	16.60	17.25	171
Locust Gap	15.75	11.40	13.45	8.75	10	14.15	14	16.50	16.30	21.20	17.40	18.5	178
Locust Spring	16.50	9	14.25	9.75	10.35	14.25	15.25	16.75	17.15	21.60	19.10	18.30	182
Mentzer	15.5	8.95	13.25	9.35	10	13.20	11	13.10	12.20	9.15	.....	.....	116
Merriam	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Penn	17.20	10.25	13.50	9.75	9.60	13.35	14.95	17.25	19.60	22.10	18.20	17.35	185
Keystone Jig	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Bast	17.75	10	14	9.75	10.50	14.25	15.20	15.50	18.90	22.40	20.50	15.75	185
Preston No. 1	18	10.80	14.25	9.75	10.50	14.35	14.85	17	19.95	23.30	20.5	15.70	185
Total and Average	16.15	10	12.35	9.45	11.40	14.45	15.15	16.1	17	19.5	15.6	15.9	182

Lehigh Valley Coal Co.													
Centralia,	20.5	12.7	10.6	9.5	10.6	14.8	20.6	15.7	15.8	20.6	17.4	19.8	188
Logan,	*												
Big Mine Run,	*												
Continental,	*												
Locust Run,													
Bellemore,													
Morris Ridge,													
Reno,													
Montana,													
Total and average,	20.5	12.7	10.6	9.5	10.6	14.8	20.6	15.7	15.8	20.6	17.4	19.8	188
Union Coal Co.													
Hickory Swamp,	9.50	10.9	10.9	8.85	12.50	10.15	15.10	12.55	14.4	20.9	18.3	17.9	162
Hickory Ridge,	12.50	10	11.3	8.50	13.8	12.25	16.25	10.6	14.7	18.50	14.7	15.50	158
Pennsylvania,	14.7	14.7	13.25	10.4	14.50	14.35	17.40	17.85	20	23.7	19.8	19	197
Richards,	14.25	8.3	13.6	10.50	15.25	16	18.3	16.50	18.3	22.8	20.45	17.7	192
Total and average,	50.95	40.90	49.5	38.25	56.5	52.75	67.55	57.50	67.40	85.90	73.20	69.65	177
Mineral Railroad and Mining Co.													
Cameron,	19.2	15	15.7	11.2	17.7	18.1	19.9	20.7	20.3	24	21.2	21	224
Luke Fidler,	17.6	12.1	15.2	10.4	16.9	16	17.9	15.7	19.4	23.9	21.3	19.5	206
Total and average,	36.8	27.1	30.9	21.6	34.6	34.1	37.8	36.4	39.7	47.9	42.5	40.5	215
Summit Branch & Lykens Valley Coal Co.													
Williamstown,	22.45	15.60	24.50	19.50	20.60	22	19.20	23.30	21	24.70	24.50	25	263
Short Mountain,	23	16	26	22	21	22	20	23.50	22.75	26	25	23.40	270
Total and average,	45.45	31.60	50.50	41.50	41.60	44	39.20	46.80	43.75	50.70	49.50	48.40	266.5
Excelsior Coal Co.													
Excelsior Coal Co.,	18.60	13	16	13.50	17.30	20.40	19.20	19.60	18.90	20.20	16.20	17	210
Corbin,	18.30	13.30	16.40	13.40	17.30	21	18.70	16.40	19	21.40	15.90	16.90	209
Total and average,	37	26.30	32.40	26.90	34.60	41.40	37.90	36	37.90	41.60	37.10	33.90	209.5
T. M. Righter & Co.													
Mt. Carmel,	18	9.80	11.10	10.10	12.70	16.20	19.60	19.30	19.70	20.40	18.10	19	194
Shamokin Coal Co.													
Natalie,									4	26	24	23	77
Enterprise Coal Co.													
Enterprise,			6.30	11	13.60	16.19	13	16.60	12.20	16.10	14.60	13.90	134
Shipman Koal Co.													
Colbert,	11.90	10.75	12.70	10	13.20	14	7.70	10.15	9.80	13	10.50	11.50	135

*Included in Centralia.

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Girard Coal Co.													
Girard,	19.60	13.50	14.50	10.90	16.90	16.90	18.60	18.10	20.10	20.40	17.40	14	201
White & White.													
Columbus No. 2,	17	13.50	14	11.80	10.50	15	19.30	17.70	17.20	19.90	22.20	20.10	198
Royal Oak Coal Co.													
Royal Oak,	15	9	14.60	12.20	15	16.30	13.80	16.60	18.10	18	13.40	14.50	177
J. Langdon & Co., Incorporated.													
Nelson,	24.65	17.80	16.50	11.80	19.20	18.30	18.75	19.50	18.10	19.80	18.10	17.60	216
Midvalley Coal Co.													
Midvalley No. 1,	16.70	10.80	8.90	14.90	8.30	11.20	12.50	16.20	15.50	18.30	14.40	17.90	159
Midvalley No. 2,	9	16.30	8.80	9.20	9.70	12	14.60	13.20	18.20	19.80	15.60	20.50	161
Total and average,	27.70	21.10	17.70	24.10	18	23.20	27.10	29.50	33.70	38.10	30	38.40	160

TABLE IV—List of fatal accidents that occurred in and about the mines of the Seventh Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 17.	Jacob Pollck,	Driver,	19	S.	....	....	Neilson,	Northumberland, ..	Killed by being squeezed between timber and mine car.
24.	George Boyer,	Miner,	24	M.	1	....	Henry Clay,	Northumberland, ..	Fell down manway.
25.	James Matthews,	Door boy,	14	S.	....	....	Bear Valley,	Northumberland, ..	Caught between top rail of wagon and top slate.
27.	Mike Basonrow,	Miner,	28	M.	1	....	Henry Clay,	Northumberland, ..	Fell down manway.
Feb. 7.	Henry Shroyer,	Miner,	39	M.	1	9	Cameron,	Northumberland, ..	Fall of top coal.
11.	John Carl,	Laborer,	30	M.	1	2	Midvalley No. 2,	Columbia,	Fall of top coal.
16.	Samuel Whiting,	Miner,	35	M.	1	3	Logan,	Columbia,	Fall of top slate.
Mar. 2.	Bart. Monday,	Laborer,	33	M.	1	1	Henry Clay,	Northumberland, ..	Fall of top slate.
25.	Peter Renochefsky,	Laborer,	30	S.	....	....	Luke Fidler,	Northumberland, ..	Fall of top slate.
April 14.	George Warfield,	Engineer,	32	M.	1	4	Williamstown,	Dauphin,	Pulled mine cars into engine house.
May 2.	George Bydock,	Laborer,	30	M.	1	....	Hickory Swamp,	Northumberland, ..	Fall of top rock.
8.	John Washlefski,	Miner,	35	S.	....	....	Pennsylvania,	Northumberland, ..	Fall of top rock.
11.	Anthony Marshall,	Miner,	22	S.	....	....	Royal Oak,	Northumberland, ..	Burned by explosion of gas.
11.	Marshall Wetcoskie,	Miner,	26	M.	1	1	Royal Oak,	Northumberland, ..	
12.	John Koko,	Laborer,	22	S.	....	....	Centralia,	Columbia,	
12.	Joseph Standcheck,	Laborer,	40	M.	1	4	Centralia,	Columbia,	Smothered by rush of dirt from culm bank.
12.	John Conyock,	Laborer,	35	M.	1	2	Centralia,	Columbia,	
12.	James Gaughan,	Laborer,	37	M.	1	2	Centralia,	Columbia,	
16.	Sprida Rebinski,	Laborer,	35	M.	1	2	Corbin,	Northumberland, ..	Fall of top rock.
June 6.	Daniel McAndrew,	Miner,	60	M.	1	....	Reliance,	Northumberland, ..	Fall of top coal.
16.	John Gibbons,	Door boy,	15	S.	....	....	Alaska,	Northumberland, ..	Head crushed; caught between wagon and top slate.
22.	Peter Goozetski,	Miner,	34	M.	1	5	Henry Clay,	Northumberland, ..	Explosion of dynamite.
July 2.	Albert W. Williams,	Machinist,	24	M.	1	....	Short Mountain,	Dauphin,	Fell under mine locomotive.
10.	Joseph Minkstain,	Miner,	31	M.	1	....	Burnside,	Northumberland, ..	Spark fell in keg of powder and exploded it.
15.	Joseph Pellock,	Miner,	35	M.	1	1	Enterprise,	Northumberland, ..	Fall of top coal.
18.	Frank Jacobs,	Miner,	37	M.	1	5	Pennsylvania,	Northumberland, ..	Fall of top rock.
20.	Reuben Kramer,	Miner,	46	M.	1	4	Bear Valley,	Northumberland, ..	Fell down manway.
Aug. 7.	Daniel Hoffman,	Laborer,	73	M.	1	....	Williamstown,	Dauphin,	Caught between mine cars at breaker.
11.	Philip Mangold,	Laborer,	75	M.	1	....	Locust Spring,	Northumberland, ..	Caught under mine cars on slope.
14.	Henry Zimmerman,	Miner,	48	M.	1	5	Reliance,	Northumberland, ..	Fall of top rock.

TABLE IV—Continued.

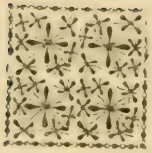
Date of Accident		Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Aug.	17.	Benjamin Sykes,	Laborer,	65	S.	....	....	Preston No. 3,	Schuylkill,	Digging stable foundation, when bank caved in on him.
	8.	Patrick Judge,	Shaft baker,	35	M.	1	2	Centralia,	Columbia,	Piece of rock fell from side of shaft.
	9.	Emanuel Leichliter,	Miner,	40	M.	1	5	Williamstown,	Dauphin,	Fall of top rock.
Sept.	11.	Jos. Cobanecki,	Miner,	32	M.	1	....	Mt. Carmel,	Northumberland,	Fall of top rock.
	3.	Joseph Lewis,	Laborer,	22	S.	....	....	Luke Fidler,	Northumberland,	Head crushed between bumpers.
	11.	Albert J. Reinard,	Laborer,	30	M.	1	4	Williamstown,	Dauphin,	Head crushed between mine cars.
	13.	George Linneman,	Laborer,	29	S.	....	....	Locust Spring,	Northumberland,	Leg broken and hurt internally by falling down shaft; died October 1.
	..	Frank Shuler,	Miner,	25	M.	....	3	Richards,	Northumberland,	Fell of top coal.
	25.	Andrew Crock,	Laborer,	18	S.	....	....	Pennsylvania,	Northumberland,	Fell down counter chute.
Oct.	1.	James Walker,	Miner,	46	M.	..	6	Burnside,	Northumberland,	Fall of top rock.
	3.	Joseph Eschelle,	Miner,	28	M.	1	5	Nellson,	Northumberland,	Smothered by outburst of gas.
	5.	James McHugh,	Slate picker,	12	S.	....	....	Locust Gap,	Northumberland,	Caught on shaft in breaker.
	6.	John Cooper,	Laborer,	21	M.	1	....	Luke Fidler,	Northumberland,	Fall of top rock.
Nov.	4.	Benjamin Merkell,	Laborer,	23	S.	....	....	Pennsylvania,	Northumberland,	Explosion of dynamite.
	26.	Thos. Carbaitch,	Miner,	50	M.	1	1	Midvalley No. 2,	Columbia,	Premature blast.
	2.	Thos. Richardson,	Slate picker,	12	S.	....	....	Williamstown,	Dauphin,	Fell in conveyor line.
Dec.	3.	Edward Cavanaugh,	Laborer,	23	S.	....	....	Nesbitt,	Northumberland,	Caught in counter chute by rush of coal.
	6.	Wm. Schrader,	Miner,	41	M.	1	7	Locust Spring,	Northumberland,	Fall of top coal; died December 22.
	11.	Archie Sacks,	Miner,	45	S.	....	....	Nellson,	Northumberland,	Fall of top rock.
	24.	Walter Cramage,	Laborer,	23	S.	....	....	Preston No. 3,	Schuylkill,	Caught in chute by rush of coal.
	25.	Carrol Jewell,	Laborer,	25	S.	....	....	Alaska,	Northumberland,	Fall of top coal.
	29.	Daniel Jaddick,	Miner,	35	M.	1	2	Excelsior,	Northumberland,	Fall of top rock.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Seventh Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person Injured.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident in Brief.
Jan. 7.	Patrick McGinn,	15	Reliance,	Northumberland,	Arm broken; caught between wagon and top rock.
9.	J. F. Hawk,	39	Williamstown,	Dauphin,	Back injured by fall of top rock.
14.	Daniel Dougherty,	23	Richards,	Northumberland,	Squeezed between wagon and timber.
19.	William Burmeister,	22	Locust Spring,	Northumberland,	Leg broken by fall of top coal.
19.	Walter Belski,	18	Burnside,	Northumberland,	Collar bone broken; squeezed between wagon and timber
19.	George Ballash,	40	Pennsylvania,	Northumberland,	Leg broken by fall of top coal.
21.	J. J. Campbell,	40	Mt. Carmel,	Northumberland,	Injured by fall of top coal.
23.	Samuel Troxinger,	21	Richards,	Northumberland,	Foot crushed by railroad car.
23.	Samuel Rudy,	50	Locust Spring,	Northumberland,	Arm and shoulder broken; premature blast.
24.	Martin Hunt,	29	Pennsylvania,	Northumberland,	Foot broken by fall of top coal.
26.	William Early,	13	Locust Spring,	Northumberland,	Arm broken; caught in elevators.
Feb. 2.	George Wagner,	18	Mt. Carmel,	Northumberland,	Leg broken; kicked by mule.
17.	John Mundas,	42	North Franklin,	Northumberland,	Bruised on legs and head by fall of top coal.
17.	James Graham,	33	Cameron,	Northumberland,	Leg broken by fall of top coal.
19.	George Phillips,	19	Mutvalley No. 2,	Columbia,	Collar bone broken; falling in breaker.
22.	Thomas Smith,	35	Luke Fidler,	Northumberland,	Leg broken by fall of top rock.
24.	Mottus Armknecht,	30	Neilson,	Northumberland,	Leg broken by fall of top rock.
Mar. 6.	Tillman Creagle,	63	Luke Fidler,	Northumberland,	Leg broken by fall of top rock.
10.	Irvin Klinger,	22	Burnside,	Northumberland,	Squeezed between mine cars
10.	Oldulf Krochinskie,	28	Pennsylvania,	Northumberland,	Back hurt by fall of top coal.
15.	John Nagle,	35	Henry Clay,	Northumberland,	Fingers blown off by premature blast.
15.	George Ruskoski,	26	Henry Clay,	Northumberland,	Hands blown off and leg broken by premature blast.
21.	Andrew Gunter,	35	Colbert,	Northumberland,	Leg broken by prop falling on him.
22.	Andrew McCreety,	25	Williamstown,	Dauphin,	Burned on face and hands by powder.
22.	Peter McGinnes,	14	Richards,	Northumberland,	Arm cut off; caught in scraper line.
April 7.	Thomas Kobits,	48	Henry Clay,	Northumberland,	Shoulder broken by fall of top rock.
11.	Morris Wetzel,	37	Henry Clay,	Northumberland,	Leg broken by fall of top rock.
17.	John Lutskie,	40	Alaska,	Northumberland,	Hands and face burned by powder.
May 3.	William Plunkett,	15	Williamstown,	Dauphin,	Foot mashed in coal shaker.
9.	Daniel Kelly,	18	Luke Fidler,	Northumberland,	Arm broken; caught between top of mine car and slope gate.
12.	John Collins,	23	Centralia,	Columbia,	Leg broken by rush of culm.
16.	Samuel Stoop,	24	Neilson,	Northumberland,	Burned by premature blast
20.	Thomas Hughes,	32	Richards,	Northumberland,	Toes cut off by bottom slate heaving.
25.	John Novack,	37	Burnside,	Northumberland,	Shoulders and back hurt; fall of top rock.

Date of accident.	Name of Person Injured.	Age.	Name of Colliery.	Location—County.	Nature and Cause of Accident in Brief.
May 25.	George Sharp,	23	Richards,	Northumberland,	Arm cut off; caught between top of wagon and timber.
28.	John Lehnstein,	28	North Franklin,	Northumberland,	Arm broken by fall of top coal.
June 1.	Michael Makulsky,	36	Midvalley No. 2,	Columbia,	Leg broken by fall of top coal.
3.	Andrew Lapinski,	28	Mt. Carmel,	Northumberland,	Leg broken by fall of top coal.
5.	Alex Winskie,	30	Pennsylvania,	Northumberland,	Hand blown off by dynamite.
6.	William Eaton,	23	Hickory Swamp,	Northumberland,	Leg broken; bumped between mine cars.
9.	John Ochallah,	33	Midvalley No. 2,	Columbia,	Shoulder broken by railroad cars.
15.	Peter Rogeckie,	25	Richards,	Northumberland,	Leg broken by fall of top coal.
22.	Thos. Nogotaka,	35	Henry Clay,	Northumberland,	Body and hands injured by premature explosion of dynamite.
23.	David Daub,	35	Richards,	Northumberland,	Injured by falling down chute.
28.	Andrew Sweitzer,	27	Cameron,	Northumberland,	Face and hands burned by gas.
30.	George Golbuskie,	32	Cameron,	Northumberland,	Injured by falling down manway.
July 1.	Jeremiah Tobin,	19	Locust Gap,	Northumberland,	Leg broken; caught by mine car.
5.	Frank Koloka,	22	Enterprise,	Northumberland,	Leg broken by fall of top rock.
5.	William Stosic,	34	Cameron,	Northumberland,	Leg cut by fall of top coal.
13.	Daniel Phillips,	26	Burnside,	Northumberland,	Foot and ribs broken by fall of top coal.
14.	John H. Wagner,	41	Williamstown,	Dauphin,	Collar bone broken by fall of top rock.
17.	Elmer Ecker,	24	Mt. Carmel,	Northumberland,	Leg broken by fall of coal.
18.	Oscar Snyder,	23	Burnside,	Northumberland,	Leg broken by engineer dropping cage too hard on bottom of shaft.
19.	William Yeager,	22	Burnside,	Northumberland,	Ribs broken; kicked by mule.
20.	Lucas Krujenskie,	33	Columbus No. 2,	Northumberland,	Leg broken; kicked by mule.
26.	Michael McDonald,	24	Potts,	Columbia,	Leg broken; fell under mine wagon.
26.	Thos. Dougherty,	28	Henry Clay,	Northumberland,	Leg broken by fall of top coal.
Aug. 2.	James Madden,	50	Logan,	Columbia,	Knee broken; struck by mine car.
4.	Simon Moore,	28	Luke Fidler,	Northumberland,	Leg broken by coal falling from car.
9.	Claude Sheep,	17	Short Mountain,	Dauphin,	Leg broken by fall of top rock.
11.	James Hanson,	18	Girard,	Northumberland,	Ribs broken; caught between car and chute.
25.	John McGovern,	50	Midvalley No. 2,	Columbia,	Leg broken by fall of top coal.
26.	Thos. Angeskie,	30	Luke Fidler,	Northumberland,	Leg broken by fall of top slate.
26.	Ellsworth McConnell,	35	Enterprise,	Northumberland,	Ribs broken; fell under cage at breaker.
Sept. 8.	Charles Camp,	18	Reliance,	Northumberland,	Hand mashed; caught in drag line.
13.	August Ellger,	30	Cameron,	Northumberland,	Leg broken by fall of top coal.
14.	Stany Sheweskie,	32	Pennsylvania,	Northumberland,	Burned on face and hands by powder.
15.	Elias Flickinger,	40	Midvalley No. 2,	Columbia,	Ribs broken; caught between mine cars.
16.	Frank Hyock,	48	Girard,	Northumberland,	Burned on face and hands by powder.

	16,	Adam Lindermuth,	34	Girard,	Northumberland,	Burned on face and hands by powder.
	20,	Jacob Kuba,	37	Excelsior,	Northumberland,	Leg broken by fall of top rock.
	26,	Charles Fetterman,	43	Logan,	Columbia,	Leg broken by coal from blast.
	27,	Cyrus Kramer,	24	Mt. Carmel,	Northumberland,	Ribs broken; fell under dumper.
	28,	John Waschofsky,	44	Neilson,	Northumberland,	Leg broken by fall of top slate.
	28,	James Augustein,	16	Pennsylvania,	Northumberland,	Finger and thumb cut off; caught under mine car.
Oct.	3,	Lewis Mench,	68	Reliance,	Northumberland,	Shoulder broken; fell from truck while coming up slope.
	6,	John Bollind,	45	Reliance,	Northumberland,	Body and head hurt by fall of top coal.
	11,	Vincent Boblick,	40	Cameron,	Northumberland,	Body and head hurt by premature blast.
	12,	Daniel Thompson,	19	Richards,	Northumberland,	Leg broken by fall of top rock.
	14,	Wally Tobin,	19	Richards,	Northumberland,	Knee crushed between mine cars.
	16,	John Haley,	45	Richards,	Northumberland,	Leg bruised by fall of slate.
	18,	Frank Camp,	41	Reliance,	Northumberland,	Ribs broken; fell from scaffold at breaker.
	27,	James Osman,	17	Williamstown,	Dauphin,	Leg broken; caught between mule and car.
Nov.	17,	Frank Osman,	35	Burnside,	Northumberland,	Back hurt by fall of top coal.
	20,	Theodore Marsley,	47	Natalie,	Northumberland,	Leg and back hurt by fall of top coal.
	21,	Frank Nestor,	32	Natalie,	Northumberland,	Skull fractured by fall of top coal.
	21,	Charles Delerzed,	45	Corbin,	Northumberland,	Leg broken by fall of top rock.
	28,	Samuel Powell,	29	Bast,	Schuylkill,	Arm broken by slope gate.
Dec.	14,	Edward Seager,	18	Williamstown,	Dauphin,	Hand mashed between locomotive and car.
	20,	Richard Roberts,	29	Williamstown,	Dauphin,	Leg broken by falling under locomotive.



Eighth Anthracite District.

SCHUYLKILL COUNTY.

Pottsville, Pa., February 22, 1900.

Hon. James Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor of herewith presenting my annual report as Inspector of Mines of the Eighth Anthracite District for the year ending December 31, 1899.

The total production of coal for the year was 4,344,567 tons, which is 195,916 tons greater than for 1898. The shipment, including local sales, 3,830,216 tons, which is 150,708 tons greater than the shipments for 1898. The number of fatal accidents during the year was 34 which is three less than for 1898. A description is given of all the fatal accidents, with the exception of two persons who died from injuries, received by being kicked by mules, and one who died from blood poisoning, resulting from a cut by an axe, for the purpose of showing more fully how they occurred than be shown in the brief description, given in the usual tables, which I think will be sufficient for any person, who is familiar with coal mining in this district, to judge as to the responsibility.

Yours very respectfully,

JOHN MAGUIRE,
Inspector of Mines.

Production of Coal in Tons for 1899.

Philadelphia and Reading Coal and Iron Co.,	1,889,245.03
Lehigh Coal and Navigation Co.,	709,190.11
Lehigh Valley Coal Co.,	17,636.15
Dodson Coal Co.,	270,491.00
Truman M. Dodson Coal Co.,	95,496.00
St. Clair Coal Co.,	147,418.10
Beddall Bros.,	95,628.00
Mitchell & Shepp,	5,061.02
Dunkleberger & Young,	25,590.00
Leisenring & Co.,	217,316 15

Lytle Coal Co.,	281,847.05
Albright Coal Co.,	69,844.18
Marion Coal Co.,	3,769.15
Davis Bros.,	36,943.17
E. C. White & Co.,	27,036.15
Mt. Hope Coal Co.,	67,780.11
Williams Coal Co.,	93,932.19
East Ridge Coal Co.,	79,823.09
Pine Hill Coal Co.,	10,162.15
Losch, Moore & Co.,	45,368 16
Gorman, Campion & Co.,	24,079.19
Slattery Bros.,	9,818.02
Joseph H. Denning,	8,478.15
Whims & Hepner,	8,594.18
Woodside Coal Co.,	22,188.06
Hammer & Painter,	1,558.00
Stoddard Coal Co.,	70,048.15
Middleport Coal Co.,	10,216.00
Total,	4,344,567.11

The total production was made up as follows:

	Tons.
Shipped by railroad to market,	3,744,148.19
Sold at the mines for local use,	86,067.12
Consumed to generate steam,	514,351.00
Total,	4,344,567.11

TABLE A—Showing Production of Coal, Number of Persons Employed by Each Company during the Year and Average Number of Tons Produced per Employe.

Names of Companies.	Number of tons produced.	Number of persons employed.
Philadelphia and Reading Coal and Iron Co.,	1,889,245.03	5,738
Lehigh Coal and Navigation Co.,	709,190.11	1,561
Lehigh Valley Coal Co.,	17,636.15	344
Dodson Coal Co.,	270,491.00	546
Truman M. Dodson Coal Co.,	95,496.00	254
St. Clair Coal Co.,	147,418.10	632
Beddall Bros.,	95,628.00	175
Mitchell & Shepp,	5,061.02	22
Dunkleberger & Young,	25,590.00	63
Leisenring & Co.,	217,316.15	504
Lytle Coal Co.,	281,847.05	772
Albright Coal Co.,	69,844.18	197
Marion Coal Co.,	3,769.15	193
Davis Bros.,	36,943.17	85
E. C. White & Co.,	27,036.15	92
Mt. Hope Coal Co.,	67,780.11	102
Williams Coal Co.,	93,932.19	378
East Ridge Coal Co.,	79,823.09	292
Pine Hill Coal Co.,	10,162.15	166
Losch, Moore & Co.,	45,368.16	112
Gorman, Campion & Co.,	24,079.19	60
Slattery Bros.,	9,818.02	40
Joseph H. Denning,	8,478.15	25
Whims & Hopner,	8,594.18	22
Woodside Coal Co.,	22,188.06	236
Hammer & Painter,	1,558.00	15
Stoddard Coal Co.,	70,048.15	42
Middleport Coal Co.,	10,216.00	11
Total,	4,344,567.11	12,682

Number of tons produced per employe, 342.57.

TABLE B—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
Philadelphia and Reading Coal and Iron Co.,	13	145,326
Lehigh Coal and Navigation Co.,	2	354,595
Lehigh Valley Coal Co.,		17,636
Dodson Coal Co.,	2	135,245
Truman M. Dodson Coal Co.,	3	31,498
St. Clair Coal Co.,	3	49,139
Beddall Bros.,	2	47,814
Mitchell & Sheppe,		5,061
Dunkleberger & Young,		25,590
Leisenring & Co.,		217,316
Lytle Coal Co.,	3	93,949
Albright Coal Co.,		69,844
Marion Coal Co.,		3,769
Davis Bros.,		36,943
E. C. White & Co.,	1	27,036
Mt. Hope Coal Co.,		67,780
Williams Coal Co.,	3	31,311
East Ridge Coal Co.,		79,823
Pine Hill Coal Co.,	1	10,162
Losch, Moore & Co.,		45,368
German, Campion & Co.,	1	24,079
Slattery Bros.,		9,818
Joseph H. Denning,		8,478
Whims & Hepner,		8,594
Woodside Coal Co.,		22,188
Stoddard Coal Co.,		70,048
Middleport Coal Co.,		10,216
Hammer & Painter,		1,558
Total and average,	34	127,781

TABLE C—Number of Fatal and Non-Fatal Accidents, and Number of Tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Number of tons of coal produced per accident.
Philadelphia and Reading Coal and Iron Co.,	43	43,936
Lehigh Coal and Navigation Co.,	12	59,099
Lehigh Valley Coal Co.,	.....	17,636
Dodson Coal Co.,	6	45,082
Truman M. Dodson Coal Co.,	5	19,019
St. Clair Coal Co.,	13	11,339
Beddall Bros.,	1	23,907
Mitchell & Shepp,	.....	5,061
Dunkleberger & Young,	.....	25,590
Leisenring & Co.,	4	54,329
Lytle Coal Co.,	13	21,680
Albright Coal Co.,	1	69,844
Marion Coal Co.,	1	3,769
Davis Bros.,	.....	36,913
E. C. White & Co.,	2	13,518
Mt. Hope Coal Co.,	1	16,905
Williams Coal Co.,	8	11,741
East Ridge Coal Co.,	1	79,823
Pine Hill Coal Co.,	1	10,162
Losch, Moore & Co.,	.....	45,368
Gorman, Campion & Co.,	1	24,979
Slattery Bros.,	.....	9,818
Joseph H. Denning,	.....	8,478
Whims & Hepner,	1	8,594
Woodside Coal Co.,	.....	22,188
Hammer & Painter,	.....	1,558
Stoddard Coal Co.,	.....	70,048
Middleport Coal Co.,	.....	10,216
Total and average,	120	36,204

TABLE D—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured, inside.	Killed or fatally injured, outside.	Injured, inside.	Injured, outside.	Total killed and injured.
Falls of coal and roof,	13	.....	22	.....	35
Explosions of gas,	12	.....	16	.....	28
Explosions of blasts,	2	.....	4	1	7
Smothered by gas,	1	.....	.....	.....	1
Kicked by mules,	1	1	.....	1	3
Falling down shafts,	2	.....	.....	.....	2
Falling down manways, chutes and slopes,	2	.....	6	.....	8
Explosion of powder,	.....	.....	1	2	3
Timber falling,	1	.....	3	.....	4
Mine cars and dumpers,	1	1	14	8	24
Smothered in chute by rush of water from behind battery,	1	.....	.....	.....	1
Entombed and smothered by black damp,	1	.....	.....	.....	1
Blood poisoning from cut by an axe,	1	.....	.....	.....	1
Breaker machinery,	.....	3	.....	4	7
Falling down breaker,	.....	1	.....	2	3
Miscellaneous,	.....	.....	1	3	4
Total,	28	6	67	19	120

TABLE E—Occupations of Persons Killed and Injured.

	Killed or fatally injured.	Injured.	Total.
Miners,	19	42	61
Laborers, inside,	1	7	8
Laborers, outside,	1	3	4
Fire bosses,	1	2	3
Drivers, inside,	2	9	11
Drivers, outside,	2	3	5
Track layer,	1	1	2
Drill runner,	1	.....	1
Timber man,	1	.....	1
Head men,	1	1	2
Rock man,	.....	1	1
Starters,	.....	3	3
Loaders,	.....	3	3
Bottom men,	.....	1	1
Door boys,	.....	1	1
Breaker oiler,	1	.....	1
Machinist,	.....	1	1
Carpenter,	.....	1	1
Fireman,	.....	1	1
Locomotive helper,	.....	1	1
Breaker boys and slate-pickers,	3	5	8
Total,	34	86	120

TABLE F—Nationality of Persons Killed or Injured.

	Americans.	Irish.	Welsh.	English.	Germans.	Hungarians.	Poles.	Lithuanians.	French.	Spaniards.	Slavs.	Total.
Killed,	19	1	1	.....	1	3	8	1	.....	.....	.....	34
Injured,	41	11	5	4	4	7	11	.....	1	1	1	86
Total,	60	12	6	4	5	10	19	1	1	1	1	120

Remarks on Fatal Accidents.

Michael Thornton, breaker oiler, was instantly killed at the Kaska-William Colliery on January 3, by being caught by the cog wheels of a screen, while he was oiling the breaker machinery. According to the testimony, it appeared that he had been working during the noon hour, while the breaker was idle, assisting the outside foreman to repair some machinery, and had then gone to his dinner. After he returned, he commenced to oil the breaker machinery which was then in motion. A short time afterwards his body was found badly mangled lying near the screen, where he had been caught. On

making an examination of the place I found that the place he was about to oil was a dangerous one, that should only have been oiled while the machinery was stopped, as per Section 8, Article 5 of mine Law. The Superintendent and Foreman testified that he had been ordered not to oil such places while the machinery was in motion, but it appears that no attention had been paid to see whether he carried out the order or not, as the breaker engineer testified that he did not know of any such orders having been given, and that the oiler sometimes oiled before starting and sometimes after. However, in this instance, it was plain that he had not been allowed the time to oil, while the breaker was stopped, which the foreman was aware of. A coroner's jury rendered a verdict: "That he came to his death by accident, while oiling counter screens."

Simon Gravinus, a miner, was instantly killed at the Lytle Colliery on the night of January 9. He was working in a gangway and was about to fire a shot. His laborer testified that Gravinus had broken off part of the touch match and then ignited the match with the part of the touch torn off. The shot was fired as soon as he touched it, killing him instantly and slightly injuring the laborer. The practice of shortening the match, which is very often done, is contrary to mine laws, and cannot be too severly condemned, as it is the cause of many of the so-called premature explosions.

John Withkufski, a miner, was severely injured by a fall of slate at Silver Creek Colliery, January 21, from the effects of which he died next day. He was working in a breast which was but fourteen feet wide, having three rows of props, the last row being seven feet from the face of the coal. A piece of slate, starting with a thin edge in front and being thin at both ends, with a slip at the back, fell between the last row of props and the face, which caught him. The piece was of such a shape as could have deceived an experienced miner.

Joseph Smith, a miner, was severely injured at Greenwood Colliery, January 23, by a piece of slate six inches thick, three feet long and two feet wide falling on him, while he was driving a heading through pillar to the next breast, and died from the effects on same day.

George Stahl, a repair timber man, was killed at West Brookside Colliery, January 25. He and his partner had placed the legs for a set of gangway timber. Stahl was on top of a car cutting some of the top coal to make room for the collar, and was about getting down, when a piece of top coal fell on his head and knocked him off the car and into the ditch, breaking his neck and killing him instantly.

Michael Pollick, a miner, was killed at the Williams Colliery, March 1. He was working in a breast, the vein being 3½ feet thick. The roof being poor, the breast was being worked narrow, double timber being used. The last set of timber was nine feet from the face. In

this space two props had been stood to support the roof until another set of timber could be put up. While at work preparing the leg holes for the timber, a piece of slate which started with a feather edge near the props, and was eleven inches thick near the rib, fell on him, killing him instantly.

Simon Lorchek, a miner, was killed at the No. 8 Colliery, Lehigh Coal and Navigation Co. March 21. A hole had been driven up to the level above for the purpose of letting the water down and had been timbered throughout. At the time of the accident, the water was very strong owing to recent heavy rains. Simon Lorchek with several others was timbering on the gangway a short distance inside of the schute in which the water was coming down. Noticing that the water had stopped running, he climbed up on the schute to see what was wrong. Just as he got there a rush of water and stuff came down which buried him on top of the gangway timber and washed about eight wagons of stuff into the gangway. Before he could be gotten out, he was dead. On making examination of the place, it was found that three sets of timber a short distance up the hole had been broken down. The stuff that fell had blocked behind the check battery, which held the water back for a few minutes, when it broke away just as Lorchek got up the schute.

Daniel Updegrave, a miner, was smothered by gas at West Brookside Colliery on March 25. He and his partner were working in No. 11 breast and were driving a heading through the pillar to No. 12 breast. About noon the coal began to work, which liberated a large quantity of gas. They went into No. 12 breast, where a heading had been started to meet them, to work on that side, to try and hole it. After working some time, Updegrave said he would go back to the other side and knock. His partner, Wm. Wingert and Morris Miller tried to dissuade him. He left and his partners thought he had started for home, as it was near quitting time. About half an hour afterwards they started for home, and on reaching the gangway found Updegrave's dinner cans, showing that he had not gone out as they thought he had. They then went up No. 11 breast to the heading, where they found his safety lamp burning at the outer end, and found Updegrave's body, lying face downwards at the face of the heading, he having crawled in, in the dark, but had been overcome by gas, before he was able to knock on the face.

Stanley Selefski, a miner, was severely burned by an explosion of gas at the Williams Colliery on June 20, and died from the effects at the Pottsville Hospital on June 30th. He was working in a breast and fired a shot which set the loose coal on fire. He and his partner extinguished the fire in sight, and then went to the gangway and loaded a car. When they returned to the face of the breast, they found the loose coal was still burning and while attempting to extin-

guish it, an explosion occurred which burned both men. I am of the opinion that the gas liberated by the shot had collected at the face while they were loading the car.

Irvin Owens, a driver, was killed at West Brookside Colliery on July 8. The repair timber men were retimbering the gangway and had put a new set up outside of a broken one. They had taken the old collar down, also the upper side leg, but the lower side leg was still standing. Owens was coming out with a trip of cars, when the front car caught the old leg, which struck the new timber and knocked it down. He was caught by the falling timber and so severely injured that he died shortly after.

John S. Wolf, a miner, was severely injured at Lincoln Colliery on July 12 and died the same day. He was working in a breast, the vein being 4 feet 3 inches thick, with a strong rock top. The bottom part of the vein, 19 inches thick, was soft, shelly coal, making it easy to mine without using powder. The top bench, 2 feet 8 inches thick, was good coal with large slips running through it to the top rock. On the day of the accident he had undermined a large wing that was overhanging the east rib of the breast for a distance of 7 feet under, and 18 feet up the pitch, which was 25 degrees, when a piece of the top coal 5 feet square and 2 feet 8 inches thick fell on him, resulting in his death.

Uriah Wise, a miner, was so severely injured at West Brookside Colliery on July 14th that he died while being taken home. He was working at robbing pillars and was at the time taking a skip off a pillar between two breasts, the roof which was hard rock being about 6 feet above him. He was throwing coal into the buggy, when a piece of rock 3½ feet long, 2 feet 8 inches wide and 14 inches thick at one side with a thin edge at the other, fell from the roof and caught him, causing his death. His laborers stated that he had sounded the piece a few minutes before it fell and pronounced it safe.

John Kormack, a miner, was killed at Morea Colliery on July 15. He was working in a breast and had left a large wing of coal hanging over the rib behind him, which he was ordered to take down and make safe. He had worked at it for some time, barring down loose coal, when a large piece fell and caught him, resulting in his death.

William Reese, a slate picker, was severely injured at Eagle Hill Colliery on July 26, and died on July 27. He was employed at a schute near a set of elevators, that at its base were also used as a drag line. He was found in the scraper trough at the bottom wheel of the elevators, one of his legs being badly mashed and he was otherwise severely injured. There was no one near to see how he got in to where he was found, and he would not say how he got there. On making an examination, I found that he would have had to climb over a stringer which was four feet above the platform in order to get where he could fall into the scraper line.

Larry Ganghan, a drill runners skull was fractured by falling down the new Pine Hill Colliery shaft on the night of August 2 and died on August 5. The shaft was down 46 feet from the surface and had been timbered with round timber down to the rock. Preparations were being made to put in bearers for the permanent timber from the rock to the surface inside of the round timber. On the night of the accident, there was a heavy thunder and rain storm and the chargemen ordered the men out of the shaft until it was over. After stepping off the bucket at the landing, Larry Ganghan stepped over and into the south compartment, the plank covering of which had been removed in order to let timber down, the temporary head frame over the middle compartment not being high enough to let the long timber down that way. The north compartment was covered and there was a fence around the three sides of the south compartment. A temporary hand rail between the middle and south compartments which could have been removed when letting timber down would have prevented an accident of this kind. I am of the opinion that Ganghan, who knew of this opening, became confused on the landing, owing to the storm, and thought he was going over to the north side of the shaft. An inquest was held and the jury rendered a verdict that the accident was due to the neglect of the company or mine owners in not having the top of the shaft fenced.

Emmanuel Herman, a miner, was severely injured at the Williams Colliery August 9, and died from the effects on August 19. He was working in a breast and on the morning of the accident, fired two holes that had been drilled the evening before. After the shots were fired, he and his partner went back to the face to dress the loose coal down. He had scarcely commenced, when a large piece of coal from a slip fell from the face and caught him. He was a careful miner and the accident was avoidable.

Simon Bolonis, a miner, was instantly killed at the Bell Colliery August 10. He was working in a breast, the vein being 3 feet 4 inches thick, pitching 58 degrees. The roof was bad and the men were putting props under it and keeping the breast full of coal, letting the surplus down the manways. On the day of the accident, there was a bad piece of slate between the last props and the face, and the foreman ordered Bolonis to put two props under it before doing any more work. However, he first fired a shot at the face of the breast and was about cleaning the stuff away to get ready to put the props in, when the slate fell and killed him instantly.

Isaac Jenkins, a miner, was killed at the Lehigh Coal and Navigation Co.'s No. 11 Colliery on August 16. He was engaged at skipping a pillar between two breasts and had just put a juggler in close to the face of the skip and was standing on the loose coal dressing the rib

for the manway when a fall of coal caught him before he could get into the manway and killed him instantly.

William Angst, a miner, was severely injured at Lincoln Colliery on August 17, and died shortly after being taken home. He was engaged at skipping a pillar between two breasts on the morning of the accident; the fire boss, on making his rounds found a wing of slate hanging for about 5 feet from the face of the skip. The top rock being good above it, he marked it and ordered it to be taken down. This had not been done, and about 9 o'clock in the morning, a piece of slate 8 inches thick, 2 feet long and 18 inches wide, fell and struck Angst on the head, with the above result. The vein was 9 feet thick with 18 inches of slate above it on pitch of 20 degrees with good rock top, and with ordinary care in taking the slate down as the coal was mined from under it, was a safe place to work.

James Callery, a driver, was killed at Silver Creek Colliery on August 30. He was driving a team of three mules at quitting time, in going to the stable. He found a car off the track which prevented him from getting the mules into the west end of the stable which was the regular way of getting in. He then took the team to the top of the No. 1 plane to go into the east end of the stable. There were two timber wagons in his way which he could not pass. He pulled them out, so as to pass the mules and then hitched on to pull them back. The cars were standing on a curve and the team giving a jerk and pulling almost at a right angle to the cars, pulled the front end of the first car off the track. The corner of the wagon caught his head against a leg, killing him instantly. There was 23 inches between the leg and the car, when it was on the track.

William McGee, a repair man, was severely burned by an explosion of gas at the Lytle Colliery on August 31 and died from the effects on September 8. A tunnel had been driven from the four foot vein to the Holmes Vein and McGee had been sent to assist to put a door in this tunnel, after which he was to go back to his work at making a stable in the next tunnel outside. He was directed to use a safety lamp only at all times at this work. The fire boss cautioned him before he went out, to be sure and not use a naked light as there might be a little gas in the abandoned breasts which might be moved when the door was closed. Shortly after the door had been closed, an explosion occurred at the outside tunnel and McGee was severely burned. He said he had used a naked light and his partner testified that McGee had lighted his lamp as soon as he got back to where he was working, which was contrary to the rules of the colliery and the special order he had received but a short time before. The explosion set fire to some of the old breast batteries, and for a time threatened to be a serious mine fire. An inquest was held and the jury rendered a verdict "that Wm. McGee came to his death from an explosion of gas caused by the said McGee using naked lamp.

contrary to the mine law. The jury is of the belief that the fire boss was very lax in seeing that the mine laws were carried out on the day of the explosion."

Robert Gannon, a breaker boy, was severely injured at the St. Clair Colliery on September 9, and died while being taken to the hospital. One of his duties was to shut the gate of the hopper feeding the counter screen at quitting time. The coal that dropped through the counter screen passed over a shaker screen which was below and in front of the revolving screen. On the day of the accident, at quitting time, he shut the gate. A few minutes afterward, some of the boys heard him moaning and found him partly on the shaker and partly on the schute leading to it. The machinery had been slowed down in the mean time and was still running slowly. He was severely injured; one leg and one arm were broken. He was conscious and when asked how he got on to the shaker, would not tell. The board walk about the screen was securely fenced, but near the part where a round slate segments were on the screen there was an opening in the platform 20 inches long by 9 inches wide on the top which was reduced to 4 inches wide below, through which a water pipe was run to wash the slate down a small hopper into which it fell. It was thought that he fell into this opening but on a careful examination with the machinery stopped, I found that it was almost an impossibility for him to have gotten through the small opening without being ground to pieces and if he had gotten through there, could not have got on to the shaker screen, but would have been dragged into the slate hopper and would have been torn to pieces, as the space between the bottom of the hopper and the screen was so small that water had to be used to keep the slate away as it fell from the round of slaters. My opinion is that being in a hurry to get away after closing the gate, he had taken a short cut by climbing over the timber at the north side of the screen and had fallen between the side of the screen and hopper, as there was plenty of room on that side and had then slid down on to the skaker and had received his injuries between the shaker and the end of the schute leading to it. A searching inquiry was made by the coroner's jury who rendered a verdict: "That Robert Gannon came to his death from shock resulting from an accident by falling into the hopper of the screen at the St. Clair Colliery; that the jury have no direct evidence as to how the said Robert Gannon met with the accident and consequently can neither censure or release from blame any one connected with the colliery."

Frank Longreen, a miner, was killed at West Brookside Colliery September 26th. He was working in a breast which was up about 70 yards on a pitch varying from 55 to 60 degrees. There was a heading on each side of the breast about 30 feet from the top. On the day of the accident, Longreen, ignited a shot on his side of the breast and re-

treated to the heading below, his partner going on his side of the breast. The shot missed fire and Longreen went back and put another squib in and ignited it then shouted "fire." This was the last that his partner, who was in his heading, heard of him, and said that Longreen had time enough to get to his heading before the shot exploded. The partner ate his lunch in his heading and thought Longreen was doing the same in the other heading. After he had finished, he went up to the face of the breast and drilled a hole. Thinking Longreen was a long time coming up, he called for him and on getting no answer, went to look for him and found his body lying at the bottom of the manway dead. He had fallen down the manway before he reached his heading.

William Kay, a miner, was severely injured at Greenwood Colliery on October 8, and was removed to the Miner's Hospital, at Ashland, where he died that evening. He, with a party of other men, were engaged putting timber in the gangway between the main tunnel and the top of the inside slope. Kay and Frank Schoffstall had made place for a set of timbers. There was a piece of slate hanging inside of them, and two other men were cutting place for the heel of a collar on it. Kay sounded the slate and pronounced it safe, and then began to round the foot of a leg under it. About five minutes afterwards, the slate fell on its edge and toppling over caught Kay and Schoffstall between it and the leg they were working at, injuring Kay so severely that he died from the effects; Schoffstall's leg was also broken. The accident could have been averted as there was no necessity for these men working under the piece of slate, particularly while the other men were working at it, the jar of which no doubt caused it to fall.

Joseph Seykensco, an outside laborer, was severely injured at St. Clair Colliery on October 19th and died at the Miners' Hospital, at Ashland, on October 22. He was working at the top of a stripping plane and got on the front bumper of the dumper to unhitch the chain at the head of the plane. After he had thrown the chain off, a piece of slate on the dumper toppled over and caught his hand on the bar to which he was holding as he was about stepping off. This caused him to fall in front of the dumper which ran on him, injuring him so severely that he died from the effects.

William Simmons, a slate picker, was injured at the St. Clair Colliery November 15 and died November 17. The breaker was stopped for some time owing to a break in the machinery, during which time the boys were playing around the new breaker being built. William Simmons attempted to run over a plank that had been laid across from one banister to another, when the plank toppled with him and he fell to the ground below, a distance of about 37 feet, and his skull was fractured from which he died.

Michael Kovell, a miner, was killed at the Lytle Colliery on Novem-

ber 18. He was working in a breast. He and his partner had ignited two shots, one in the west corner at the face of the breast, and the other in heading they were driving near the face on the other side. The partner claimed that both shots exploded and that Kovell went up the breast again, while he remained below to eat his lunch. After he had finished, he went up the breast and found Kovell's body lying near the face, and claimed that he had been killed by a fall of coal, but on making an examination, I found that no coal had fallen, close to Kovell's body, when found. A prop had been knocked out by the shot in the west corner of the breast and the blasting needle, which was badly bent up was lying beside him. I am of the opinion that Kovell thought that his shot had missed and was going back to it with the needle in his hand, when the shot exploded and killed him.

Martin O'Brien, a miner, was killed at the Glendower Colliery on November 20. He was engaged with his father in timbering a new fan hole which had been driven from the Taylorsville slope level to the surface of the Crosley Vein. They had timbered it down for about 95 feet from the surface and had a battery across the hole below where they were working. They were using one side for a travelling way and had a plank step between each mudsill with a hand rail spiked along the legs, and were using the other side to let the timber down. They had been to the surface, preparing to let timber down and Martin started to go down the traveling way, taking a wooden wedge with him. When he had got down about 15 feet, his father heard the wedge falling and called, but getting no answer, he went down and found Martin lying at the battery unconscious. He went for help, but when it arrived, Martin was dead. He had slipped in going down and had fallen a distance of about 82 feet on a pitch varying from 55 to 70 degrees.

Gordon Troutman, a laborer, was killed at West Brookside Colliery, December 1st. He was working with Frank Undercoffler, a miner, on the night shift. They were working in a schute which was being driven up in the piller for the purpose of robbing it, and had a prop under the roof about five feet above the gangway, which was close to the face of the coal, at the beginning of their shift. There was a slant slip running from the bottom of the vein up to the top rock, in front of them, from which they loaded six wagons of coal. Over where the coal had been taken out, there was a bad piece of rock which the miner tried to bar down but could not. They could not put any props under it, until the bottom coal had been taken up. While taking up the bottom coal, a piece of the rock fell, which slid down over the coal and caught Troutman killing him instantly.

Edward Lashenskie, headman at shaft, was killed at Morea Colliery, December 14. He had been engaged as one of the headmen at the shaft for about two months. The coal at this shaft is landed at

the slope level, the empty cars are brought to the shaft from the west side and the loaded cars are run off on the east side. The gate on the east side was 12 feet away from the shaft and was so hung that after the loaded car had passed through, it would fall shut. At the time of the accident, there were no empty cars at hand, and the loaded cars were blocked up to near the gate so that there was not quite room for the last car to pass through and allow the gate to close. The Superintendent was there and told Lashenskie and three other men, to push the wagon down so that the gate would close. While they were doing it, the Superintendent got on the cage and was standing at the landing to go up to the surface. The signal man gave the signal to hoist the cage and stood at the signal wire. During this time Lashenskie had his back against the loaded car and was facing the shaft. After the cage had gone up some distance, he started to walk towards the shaft. The signal man called to him to keep back, but he took no notice and walked into the shaft and fell to the bottom and was killed. He had evidently forgotten that the cage had gone up and wanted to cross over to the other side of the shaft by going over the cage instead of through the traveling way, which is on the north side of the shaft.

William Calloway, a fire boss, was entombed at the Kaska William Colliery on December 18, and lost his life before he could be rescued. On Monday morning, December 18, he went into the mine about 4.45 o'clock for the purpose of making an examination of the workings in his district, before the men commenced work. While he was in the inside workings of the plane West Mammoth Bottom Bench gangway, Northdale Basin, one of the breasts (No. 8) outside of him, ran through to the old abandoned water level gangway above, which was for some distance closed by falls, and let down a large quantity of water, which washed the plane gangway, schutes and headings full of coal, slate and debris for a distance of over five hundred feet, beginning at No. 3 schute. At the time of the accident, it was not known to what extent the openings were closed up or whether William Calloway had been caught in the rushing stuff and buried or whether he was up in some of the inside workings and above the filled up portion and still alive. Work was started at once by as many men as could be utilized to reopen the gangway and headings on both sides of the gangway (the gangway being in a local basin) which was continued without stopping until the evening of January 17, 1900, when the No. 11 chute was reached. This chute was open above the gangway and on one of the side planks was written with chalk: "I am in the chute, No. 11½. W. C."

The rescuing party then went up No. 11 chute to the heading to get into the No. 11½ chute, but found the heading closed, the timber having broken down after Calloway had passed through it. A tem

porary opening was made and the chute reached. Near the top of it, one of his boots was found and down near the air battery his safety lamp and miner's lamp were found, set carefully on one side and both containing some oil. An oil can containing a small quantity of oil was also found near. On the upper side of the plank battery was written with chalk: "I think this is Wednesday 7:25 o'clock. W. C." "Bood-bye, wife. W. C." "I must go. Good-bye, Jennie. Be good boys, Guy and Willie, for I don't think you will see me again. W. C."

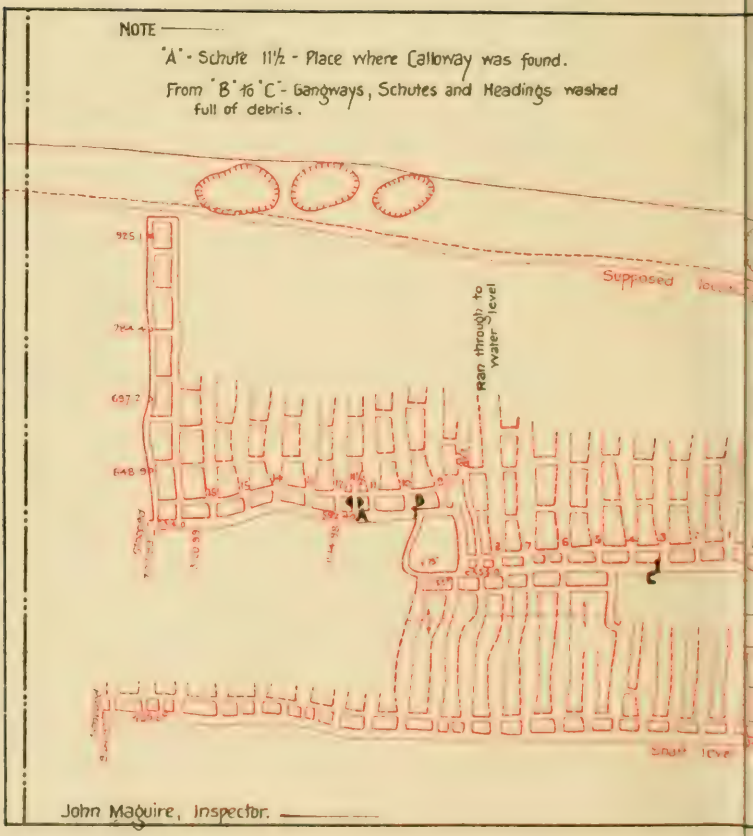
On opening the battery door, his body was found badly decomposed, lying in the chute with his feet down near the gangway timber, the position in which he laid and his clothing indicating that there had been no strugggle, but that after his lamps had been extinguished by the black damp which was present in large quantity shortly after the openings had become blocked and the air cut off, he had fully realized that there was no hope for his escape and he had gone below the battery and laid down and quietly awaited death. I doubt whether he lived until Wednesday, as the lower heading was full of black damp at No. 5 breast before Tuesday morning, less than twenty-four hours after the accident.

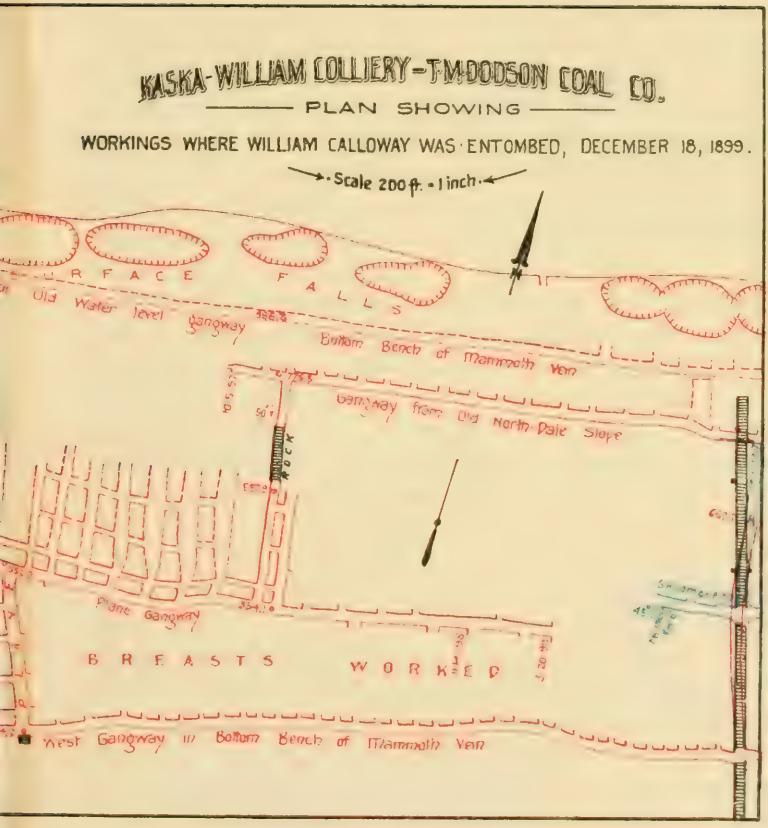
The accident was caused by the No. 8 breast on the plane level gangway running through to the abandoned water level gangway. The superintendent testified that he had stopped the breast in April, 1899, and measured it at that time and found it was up from the gangway 340 feet, the first 180 feet was on a light pitch, requiring sheet iron to get the coal down. It then took a heavier pitch, and the balance of the breast for 160 feet was worked full. According to this measurement there should have remained about 280 feet of coal from the face of the breast to the water level gangway. After the breast was stopped, men were put in to skip the pillars, which soon caused the face of the breast to run which according to the evidence taken at the inquest, it had been doing for some time, the loose coal being loaded out, as it fell, up to the Saturday night before it ran through.

At the inquest held January 19th, 1900, the coroner's jury rendered the following verdict:

"That William Calloway, fire boss, came to his death by suffocation caused by a sudden rush of coal and water down No. 8 breast from old workings, and we, the said jurors, hereby censure the Truman M. Dodson Coal Co. for violating Article 12, Rule 15 of the Mine Law, in not using precautions to avert such accidents, knowing as they did that there were old and abandoned workings above them."

There can be no excuse offered for an accident of this kind, as there was but 160 feet of the breast on a heavy pitch, it would not require much of a calculation as to the quantity of coal that should have been yielded by that part of the breast, after this quantity had been drawn


NOTE
"A" - Schute 11½ - Place where Calloway was found.
From "B" to "C" - Gangways, Schutes and Headings washed full of debris.
925.1
784.4
697.2
648.9
Supposed
Ran through to water level
John Maguire, Inspector.


KASKA-WILLIAM COLLIERY-T.M.DODSON COAL CO.
PLAN SHOWING
WORKINGS WHERE WILLIAM CALLOWAY WAS ENTOMBED, DECEMBER 18, 1899.
Scale 200 ft. = 1 inch.
SURFACE FALLS
Old Water level Gangway
Bottom Bench of Mammoth Vein
Gangway from Old North Dale Slope
ROCK
Plane Gangway
BREASTS WORKED
West Gangway in Bottom Bench of Mammoth Vein

out and the breast was still running and being drawn as fast as it ran, which fact was testified to by the men who were drawing the coal and a fire boss, who had filled Wm. Calloway's place temporarily a month before the accident, and which the officials in charge knew or should have known. It was very evident that it was only a question of time when the breast would run through and would almost certainly result in great risk to life and damage to property.

Improvements Made at Collieries During 1899.

Lytle Colliery.—The new shaft which was commenced in 1897 reached a depth of 1,550 feet on October 1, 1899, when sinking was stopped, and the bottom landing made at 1,500 feet from the surface, gangways being turned east and west, and driven in 15 feet on each side. The Orchard vein is at the lower side of the gangways. Another landing has been made in the shaft at tide level which is 1,034 feet from the surface, and gangways turned east and west, and driven 45 feet on each side in rock. Tunnels will be driven from these levels to the underlying veins.

The inside slope which is being sunk on the Four Foot vein has been continued to a depth of 822 below the fourth lift gangway, and is now nearly down to the level of the bottom of the shaft.

In May, 1899, the water in the lower lift of the abandoned Forestville Slope was successfully tapped by a tunnel which was started between No. 69 and 70 breast in the West Four Foot gangway. The tunnel was driven in 190 feet, when the water was tapped by drill holes. There was a head of 157 feet of water in the old workings above the level of the tunnel. After the water had been drained off, the tunnel was driven through the old workings, which are in the Black Heath Vein, the total length of the tunnel from the Four Foot vein being 238 feet. There is yet about 30 feet vertical of water at the bottom of the old Forestville slope, it being that much deeper than the present Lytle Colliery, fourth lift, which is all the water that is known to remain in the Black Heath Vein workings west of the colliery, and which can be reached only by the workings of a new lift.

Pine Hill Colliery.—The shipment of coal from this colliery was suspended in May, 1899, the breaker torn down, and work on a new and larger breaker begun, which is now nearly completed. A tunnel 354 feet long has been driven south from the West Gangway of the Buck Mountain Vein Slope, which was sunk in 1898, and a shaft is being sunk from the surface to the south end of the tunnel to do away with the slope for hoisting purposes. The shaft was down 207 feet on December 31st. A water level drift on the Seven Foot Vein has been driven westward 3,250 feet and at that point a tunnel 80 feet long has been driven to the Buck Mountain Vein. A dynamo has been

placed in position to furnish power for an electric motor, which will be used for hauling coal out of the drift.

St. Clair Colliery.—A very large new breaker has been built at this Colliery, close to the north side of the old breaker. It was not quite ready for operation at the end of the year. (The first coal was dumped on it on February 3d, 1900.)

East Ridge Colliery.—A new slope has been made in the Buck Mountain Vein from the third lift to the surface. It is now being sunk, and is 50 feet below the third lift gangway.

Williams Colliery.—The second lift tunnel has been continued from the north dip of the Smyth vein to the north dip of the Spohn vein. Length of tunnel 133 feet. A tunnel has also been driven from the fourth lift west Spohn vein gangway to the Smyth vein. Length of tunnel 342 feet.

Woodside Colliery.—The new breaker at this colliery was started on April 8th, to rescreen the old dirt banks. The slope which is being sunk on the Buck Mountain vein reached a depth of about 475 feet from the surface in July, when the sinking was stopped and nothing has been done in it since that time.

The water was pumped out of the old Rohrersville colliery, Daniel vein slope, about 100 yards deep, the bottom of the slope having been reached in August. The east gangway on the Daniel vein, being found open to the face, a distance of about 4,100 feet; track was laid into the land line, which is about 3,600 feet east of the bottom of the slope, and the work of mining the "Billy" vein which is about 4½ feet thick, with from 18 inches to 2 feet of slate dividing it from the Daniel vein, which has already been worked, and the robbing of the Daniel Vein pillars has begun. The breaker began to prepare coal from the mine on October 27.

The Lykens Valley Coal Co., of which Mr. Murtha P. Quinn, of Pottsville, is the head, is sinking a trial slope on the north dip of the No. 5 Lykens Valley vein about 1,850 feet west of Keffers Station, in Porter township. The slope was 88 1-3 yards down on December 31, dipping 60 to 67 degrees.

Wadesville Shaft Colliery.—The new breaker at this colliery was completed in November and commenced to prepare coal on November 15. It is fitted up with the most modern machinery and appliances. The main tunnel north from the Seven Foot vein has been completed to the Buck Mountain vein which is 1,088 feet from the Seven Foot. The overhead return air tunnel has also been completed and is about the same length. A tunnel has been driven south from the Seven Foot vein, a distance of 840 feet to the Holmes vein. The coal is hoisted at the old shaft, also the water necessary for use in the breaker; the new shaft is used for hoisting the balance of the water, and the rock, and for letting timber and other material down, and

for lowering and hoisting the men, one compartment being used for the upcast airway.

Silver Creek Colliery.—A tunnel has been driven on the No. 1 plane level to the Holmes vein, length of tunnel from the Seven Foot vein to the Holmes vein 670 feet.

Otto Colliery.—An inside slope has been sunk from the White Ash water level to the Bottom bench gangway on the No. 1 plane level of the "Bore Hole" slope, which was abandoned in 1897. This new slope is 847 feet deep from the water level gangway. A counter lift is being worked from it on the top bench of the Mammoth vein.

Good Spring Colliery.—A new double track slope is being sunk on the south dip of the Mammoth vein, top bench, 9,200 feet east of the breaker. This slope was down 99 feet on December 31, 1899. A road has been graded along the mountain and the track laid from the breaker to the slope.

Lincoln Colliery.—A shaft to be used for hoisting water is being sunk about 600 feet east of the breaker. The shaft is 12 feet 8 inches square in the clear, which is divided into four compartments of 6 feet square each, and it will be sunk to the sixth lift. It was down 378 feet on December 31. The tunnel from the No. 1 slope sixth lift from the No. 2 to the No. 6 vein has been completed and is 630 feet long, making a total length of tunnel from the No. 1 Lykens Valley to the No. 6 Lykens Valley vein of 1,845 feet on the sixth lift.

Colliery Abandoned.—Operations in the York Farm Colliery, operated by the Lehigh Valley Coal Company, were stopped on February 9th, 1899. The pumps and all loose material were taken out of the mine and the colliery abandoned.

Kaska William Colliery.—The bottom of the inside slope which was flooded by water breaking in from old workings on May 26, 1898, was reached in the early part of January, 1899, and the work of reopening the gangways has been going on during the year. The slope being in the top bench of the Mammoth vein; the water has wrought more destruction on the top bench gangways than to those on the bottom bench. The west top bench gangway has been reopened for about 1,000 feet from the slope. There is yet 1,800 feet to be cleaned up to reach the face. This gangway was very badly wrecked, and so far has been tightly blocked by debris. Where it is not washed full, it is closed by falls, the timber having been nearly all swept away and in places the stumps having run, the headings and chutes were all broken down and closed. When the water broke in, there were twelve loaded wagons on the west turnout at the bottom of the slope. These were swept into the west gangway, the first of them having been found about 900 feet from the slope. They have not all yet been found. The east top bench gangway has been reopened about 450 feet from the slope. There is about 2,200 feet yet to clean up to reach

the face. The work of reopening this gangway has not been kept going steadily. It has been found to be badly wrecked as far as has been reopened, being tightly closed ahead and most of the timber swept away. The airways of both of these gangways have been so destroyed that it will be almost impossible to ventilate them after the gangways have been reopened. The west bottom bench gangway has been reopened for about 1,700 feet from the tunnel, which is 300 feet east of the slope. The outside part of this gangway was tightly closed and badly wrecked. The inside part is not so badly wrecked, as many of the timbers are still standing, and there yet remains about 1,100 feet to be cleaned up to the face. The east bottom bench gangway has been cleaned up to the face, which is about 2,000 feet from the tunnel. Most of this gangway was only about half full of debris, and but little of the timbering was disturbed.

The new tunnel bottom bench gangway has been cleaned up to the face, which is about 200 feet from the tunnel. The west gangway has been cleaned up for about 400 feet or near to the top of the little plane. Of the six men whose lives were lost by this disaster, three of their bodies were found on the shaft level during 1898. The body of William Derr was found June 27, 1899, in the inside manway of No. 3 breast west bottom bench, about 25 feet above the lower heading. The body of William Morgan was found on July 13, 1899, in the lower heading between the No. 4 and No. 5 breasts, west bottom bench gangway. The body of one of the laborers who was working in the tunnel on the shaft level, when the water broke in, has not yet been recovered. The bodies of all the mules have been found; one that was washed down the slope was found in the west top bench gangway. It may be that the unrecovered body has been washed into one of the slope gangways and is still farther in than where they have been reopened.

The examination of candidates for certificates as mine foreman and assistant mine foreman for the Eighth Anthracite district was held at Pottsville in June, 1899.

The examining board was composed of Thomas Doyle, Superintendent, David Tucker and Frank Larkin, miners, and John Maguire, Mine Inspector.

The following were recommended to the Secretary of Internal Affairs for certificate of qualification as mine foreman:

William Bevan, St. Clair.
Thomas Hobin, Glen Carbon.
James Curry, Middleport.
John Bailey, Silver Creek.
John B. Jones, Minersville.
Phillip Simmons, Minersville.
Zach. Ansbach, Silver Creek.

Joseph Boe, Joliett.
John H. Charles, Llewellyn.
Patrick J. Kelly, Minersville.
William Lowrey, Minersville.
Michael Crowe, Minersville.
Fred. Scheideggar, Tamaqua.
John W. Jones, Coaldale, as assistant mine foreman.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Eighth Anthracite District for 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
West Brookside,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
West Brookside,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
West Brookside,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
West Brookside,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Lincoln,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Lincoln,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Good Spirit,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Otto,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Otto,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Phœnix Park No. 2,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Richardson,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Glendower,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Silver Creek,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Eagle Hill,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Wadesville,	Schuylkill,	Philadelphia and Reading Coal and Iron Co.,	R. C. Luther,	Pottsville, Pa.
Colliery No. 8,	Schuylkill,	Lehigh Coal and Navigation Company,	W. D. Zehner,	Landsford, Pa.
Colliery No. 10,	Schuylkill,	Lehigh Coal and Navigation Company,	W. D. Zehner,	Landsford, Pa.
Colliery No. 11,	Schuylkill,	Lehigh Coal and Navigation Company,	W. D. Zehner,	Landsford, Pa.
Colliery No. 12,	Schuylkill,	Lehigh Coal and Navigation Company,	W. D. Zehner,	Landsford, Pa.
Yard Farm,	Schuylkill,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Blackwood,	Schuylkill,	Lehigh Valley Coal Company,	W. A. Lathrop,	Wilkes-Barre, Pa.
Morea,	Schuylkill,	Dodson Coal Co.,	E. L. Bullock,	Audenried, Pa.
Kaska Williams,	Schuylkill,	Truman M. Dodson Coal Co.,	E. L. Bullock,	Audenried, Pa.
St. Clair,	Schuylkill,	St. Clair Coal Company.		
Greenwood,	Schuylkill,	Beddall Bros.		
East Lehigh,	Schuylkill,	Mitchell & Shepp.		
West Lehigh,	Schuylkill,	Young & Junkleberger,	John Young,	Tamaqua, Pa.
Oak Hill,	Schuylkill,	Leisenring & Co.		
Lytle,	Schuylkill,	Lytle Coal Co.,	Morris Williams,	Wilkes-Barre, Pa.
Albright,	Schuylkill,	Albright Coal Co.		
Marion,	Schuylkill,	Marion Coal Co.		
Ellsworth,	Schuylkill,	Davis Bros.,	J. H. Davis,	St. Clair, Pa.
Howard,	Schuylkill,	E. C. White & Co.,	Richard White,	Pottsville, Pa.
Mt. Hope,	Schuylkill,	Mt. Hope Coal Company,	S. D. Kynor,	Pottsville, Pa.
Williams,	Schuylkill,	Williams Coal Co.,	E. F. Williams,	Pottsville, Pa.
East Ridge,	Schuylkill,	East Ridge Coal Company,	B. E. Kingsley,	Minersville, Pa.
Pine Hill,	Schuylkill,	Pine Hill Coal Company,	C. B. Sturges,	Scranton, Pa.
Lorberry,	Schuylkill,	Losch, Moore & Co.,	Simon Moore,	Tremont, Pa.
Bell,	Schuylkill,	Gorman & Campion.		
Tuscarora,	Schuylkill,	Slattery Bros.,	Daniel Slattery,	Tuscarora, Pa.

Sebastopol,	Schuylkill,	Joseph H. Denning,	Joseph H. Denning,	St. Clair, Pa.
Jugular,	Schuylkill,	Whims & Hepner.		
Woodside,	Schuylkill,	Woodside Coal Company,	E. M. Jones,	Minersville, Pa.
Young's Landing,	Schuylkill,	Hammer & Painter.		
Wolf Creek washery,	Schuylkill,	Stoddard Coal Co.,	J. J. Hollenbeck,	Pottsville, Pa.
Middleport washery,	Schuylkill,	Middleport Coal Company,	W. R. McTurk,	Philadelphia, Pa.

TABLE I —Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
West Brookside,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Patrick Berney,	Wm. D. Jones.
West Brookside,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	John G. Kopp,	
West Brookside,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	John Monahan,	
West Brookside,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	William Taylor,	
Lincoln,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Nicholas Neider,	E. C. Neal.
Lincoln,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Henry C. Ntithamer,	
Good Spring,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Joseph Watkins,	William Coyne.
Otto,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	John Carran,	Hugh Golden.
Otto,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Michael Conway,	
Phœnix Park No. 1,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Patrick H. Devers,	T. J. Murphy.
Rahnstown,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Martin Kelly,	H. Landerman.
Glenwood,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Thomas F. Downing,	Christ. Sproats.
Silver Creek,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	William E. Jones,	William Tiley.
Eagle Hill,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Thomas Larkin,	Thomas C. Cockitt.
Wadesville,	John Veith,	Pottsville, Pa.,	Thomas Doyle,	Evan Davis,	Jesse Rubright.
Colliery No. 8,			Baird Snyder, Jr.,	Evan G. Evans,	Thomas F. McLaughlin.
Colliery No. 10,			Baird Snyder, Jr.,	Richard Edwards,	Richard Boyd.
Colliery No. 11,			Baird Snyder, Jr.,	David E. Jones,	Theodore Maerket.
Colliery No. 12,			Baird Snyder, Jr.,	James J. Sticker,	John Boyle.
York Farm,				Wm. Leckie,	Wm. Leckie.
Blackwood,				Wm. Leckie,	Wm. Leckie.
Morea,	Elmer E. Evans,	Morea, Pa.,		Thomas Llewellyn,	William Henniker.
Kaska Williams,	Thomas C. Reese,	Kaska, Pa.,		Michael Flanigan,	David S. Davis.
St. Clair,	Richard R. Williams,	St. Clair, Pa.,		David Clocker,	Wm. A. Delcamp.
				Wm. J. Price,	
Greenwood,	M. A. Gerber,	Tamaqua, Pa.,		John Bryant,	Elmer F. Gerber.
East Lehigh,	Jas. Mitchell,	Tamaqua, Pa.,		Phillip Rodgers,	Wm. Riley.
West Lehigh,	W. C. Dunkleberger,	Tamaqua, Pa.,		William Lishman,	George H. Young.
Oak Hill,	J. Woodring,	Duncott, Pa.,		Thomas Evans,	James Jamison.
Lyle,	Arthur Kennedy,	Minersville, Pa.,		William S. Jones,	Moses James.
Albright,	Charles Jasper,	Minersville, Pa.,		Charles J. Price,	Wm. A. Sykes.
Marion,	L. S. Watros,	Pottsville, Pa.,		Andrew G. White,	Joseph Curt.
Ellsworth,				William Palmer,	George Wilson.
Howard,				Richard White,	Robert White.
Mt. Hope,				Pilate Orme,	Patrick Howe.
Wilhelmina,				Owen C. Jones,	John Bound.
East Wilhelmina,				F. K. Schreffler,	M. P. Cain.
Pine Hill,	Richard J. Wren,	Minersville, Pa.,		Thomas J. Davis,	W. J. Brown.
Lorberth,			William Moore,	John Dempsey,	John Paul.
Bell,	Edward Gorman,	Tuscarora,		John F. Kane,	Joseph Steinmetz.
Tuscarora,				Thomas Keating,	John Dougherty.

Sebastopol				William B. Denning.
Jugular	James J. Wilms	St. Clair, Pa.	Frank Hepner	Frank Hepner.
Woodside			T. P. Jones	Elmer E. Epler.
Young's Landing			Robt. Painter	Walter Hammer.
Wolf Creek washery				Lewis Meinhold.
Middleport washery	James S. Kerns	Middleport, Pa.		James S. Kerns.

TABLE II—Gives the total number of tons of coal mined in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Eight Anthracite District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Phila. and Reading Coal and Iron Co.												
West Brookside,	Schuylkill,	387,051.14	55,628	.....	442,679.14	211.4	1,313	6	5	6,519	45,642	119
Lincoln,	Schuylkill,	212,696.08	19,170	3,329.15	234,596.03	212	717	2	2	6,135	27,610	78
Good Spring,	Schuylkill,	152,829.10	12,184	3,100.05	168,104.15	208.9	485	.....	3	5,168	12,837	40
Otto,	Schuylkill,	102,231.07	54,689	1,619.00	158,539.07	177	444	1	2	216	26,757	42
Phoenix Park No. 3,	Schuylkill,	85,481.09	14,062	1,182.15	100,726.04	177.1	341	.....	.....	918	14,362	37
Richardson,	Schuylkill,	100,811.19	26,835	526.10	128,173.09	160.6	340	.....	1	465	32,451	38
Glendower,	Schuylkill,	93,439.10	28,561	320.05	122,320.15	175.7	440	1	1	1,911	11,142	70
Silver Creek,	Schuylkill,	280,375.15	26,424	2,588.00	309,387.15	184.7	879	2	5	4,696	11,453	76
Eagle Hill,	Schuylkill,	179,259.13	28,859	1,669.15	209,788.08	176	623	1	11	2,661	8,900	47
Wadesville,	Schuylkill,	5,569 13	17,878	481.00	23,928.13	26.3	156	.....	.....	357	43,250	10
Total,		1,590,137.18	284 200	14,817.05	1,889,245.03	*186	5,738	13	30	29,066	234,404	557
Lehigh Coal and Navigation Co.												
Colliery No. 8,	Schuylkill,	227,822.01	16,307	3,149.15	247,278.16	213.9	611	1	6	660	44,400	110
Colliery No. 10,	Schuylkill,	202,730.01	21,856	3,415.00	228,001.01	203.9	520	.....	2	1,080	25,500	86
Colliery No. 11,	Schuylkill,	212,220.09	13 209	3,382.05	228,871.14	197.3	492	1	2	960	24,500	57
Colliery No. 12,	Schuylkill,	.....	5,039	.....	5,039.00	†	28	.....	.....	.....	300	11
Total,		642,772.11	56,471	9,947.00	709,190.11	*205	1,561	2	10	2,700	94,700	264
Lehigh Valley Coal Co.												
York Farm,	Schuylkill,	9,920.00	1,350	6,263.15	17,533.15	27.7	340	.....	.....	75	1,452	.....
Blackwood,	Schuylkill,	.....	.....	103.00	103.00	†	4	.....	.....	.....	.....	.....
Total,		9,920.00	1,350	6,366.15	17,636.15	27.7	344	.....	.....	75	1,452	.....
Dodson Coal Co.												
Morea,	Schuylkill,	244,768.00	25,000	723.00	270,491.00	255.3	546	2	4	4,122	30,250	62

Truman M. Dodson Coal Co.												
Kaska William,	Schuylkill,	74,939.00	20,050	527.00	95,496.00	230	254	3	2	628	10,750	24
St. Clair Coal Co.												
St. Clair,	Schuylkill,	129,188.98	15,690	2,630.02	147,418.10	170.6	632	3	10	4,630	7,106	30
Beddall Bros.												
Greenwood,	Schuylkill,	86,401.10	2,100	7,126.10	95,628.00	236.3	175	2	2	1,200	5,350	16
Mitchell & Shepp.												
East Lehigh,	Schuylkill,	2,438.08	172	2,450.14	5,061.02	220	22	.....	.....	95	500	3
Dunkleberger & Young												
West Lehigh,	Schuylkill,	17,819.00	700	7,071.00	25,590.00	234	63	.....	.....	760	3,600	9
Leisenring & Co.												
Oak Hill,	Schuylkill,	195,412.10	20,075	1,829.05	217,316.15	207.3	504	.....	4	2,956	31,000	44
Lytle Coal Co.												
Lytle,	Schuylkill,	235,991.05	42,407	3,449.00	281,847.05	225.5	772	3	10	6,773	73,055	69
Albright Coal Co.												
Albright,	Schuylkill,	56,700.18	12,246	898.00	69,844.18	175	197	.....	1	1,349	19,225	21
Marion Coal Co.												
Marion,	Schuylkill,	2,097.00	1,100	572.15	3,769.15	17	193	.....	1	30	100	23
Davis Bros.												
Ellsworth,	Schuylkill,	34,368.17	2,350	285.00	36,943.17	235.6	85	.....	.....	50	7,200	6
E. C. White & Co.												
Howard,	Schuylkill,	23,164.15	3,650	222.00	27,036.15	194.8	92	1	1	390	38	9
Mt. Hope Coal Co.												
Mt. Hope,	Schuylkill,	57,147.11	5,000	5,633.00	67,780.11	192.5	102	.....	4	570	9,900	14
Williams Coal Co.												
Williams,	Schuylkill,	79,878.17	6,000	8,054.02	93,932.19	193.7	378	3	5	1,290	11,650	28
East Ridge Coal Co.												
East Ridge,	Schuylkill,	76,113.09	3,650	60.00	79,823.09	155.5	292	.....	1	3,421	5,800	23
Pine Hill Coal Co.												
Pine Hill,	Schuylkill,	8,999.05	1,016	147.10	10,162.15	35	166	1	.....	635	2,641	15
Losch, Moore & Co.												
Lorberry,	Schuylkill,	40,920.07	1,131	3,317.09	45,368.16	202.1	112	.....	.....	1,050	1,150	13
Gorman, Campion & Co.												
Bell,	Schuylkill,	23,479.19	600	.....	24,079.19	181.4	60	1	.....	770	950	5
Slattery Bros.												
Tuscarora,	Schuylkill,	9,428.02	120	270.00	9,818.02	170	40	.....	.....	475	650	4

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Jos. H. Denning.												
Sebastopol	Schuylkill	.....	400	8,078.15	8,478.15	281	25	.....	.....	5	200	10
Whims & Hepner.												
Jugular	Schuylkill	7,648.08	820	126.10	8,594.18	205	22	.....	1	4	200	6
Woodside Coal Co.												
Woodside	Schuylkill	16,701.06	5,400	87.00	22,188.06	164	236	.....	.....	250	4,300	9
Hammer & Painter.												
Young's Landing	Schuylkill	.....	488	1,070.00	1,558.00	85	15	.....	.....	40	70	.....
Stoddard Coal Co.												
Wolf Creek washery	Schuylkill	68,015.15	1,810	223.00	70,048.15	199.8	42	.....	.....	.....	.....	3
Middleport Coal Co.												
Middleport washery	Schuylkill	9,756.00	375	85.00	10,216.00	111	14	.....	.....	.....	.....	3

Recapitulation.

Phila. and Reading Coal and Iron Co.	Schuylkill	1,590,137.18	284,200	14,817.05	1,889,245.02	*186	5,738	12	20	29,066	234,404	557
Lehigh Coal and Navigation Co.	Schuylkill	692,772.11	56,471	9,947.00	709,190.11	*205	1,561	2	10	2,709	94,700	264
Lehigh Valley Coal Co.	Schuylkill	9,920.00	1,350	6,366.15	17,636.15	27.7	344	.....	.....	75	1,452	.....
Miscellaneous coal companies	Schuylkill	1,423,746.15	175,055	54,628.12	1,648,230.07	206.5	4,982	19	46	31,499	225,685	442
Stoddard Coal Co., washery	Schuylkill	68,015.15	1,810	223.00	70,048.15	199.8	42	.....	.....	.....	.....	3
Middle Coal Co., washery	Schuylkill	9,756.00	375	85.00	10,216.00	111	14	.....	.....	.....	.....	3
Grand total		3,744,148.19	514,351	86,067.12	4,344,567.11	‡198.8	12,682	34	86	63,340	556,241	1,276

*Average. ‡Per. General average.

TABLE II —Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives—steam.	Number of steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.								
Philadelphia and Reading Coal and Iron Co.													
West Brookside,	Schuylkill,	19	300	27	4,050	4,350	5	20	2,029	2	2,700	1,205	.....
Lincoln,	Schuylkill,	24	720	10	1,500	2,220	1	10	564	5	3,000	1,637	2
Good Spring,	Schuylkill,	22	660	4	600	1,260	1	5	411	1	1,700	846	.....
Otto,	Schuylkill,	30	900	3	750	1,650	.....	11	594	3	2,166	1,793	.....
Phoenix Park No. 3,	Schuylkill,	14	420	.....	.....	420	.....	3	180	1	2,200	1,800	.....
Richardson,	Schuylkill,	31	930	4	600	1,530	1	6	398	2	1,500	532	.....
Glendower,	Schuylkill,	50	1,500	4	600	2,100	1	9	660	3	1,200	350	.....
Silver Creek,	Schuylkill,	.....	.....	14	2,100	2,100	.....	11	1,240	*2	1,400 1,450	194 380	.....
Eagle Hill,	Schuylkill,	20	600	3	750	1,350	.....	8	840	2	1,014	676	.....
Wadesville,	Schuylkill,	.....	.....	14	2,100	2,000	.....	9	1,591	4	3,300	1,115	.....
Total,		201	6,030	83	13,050	19,080	9	92	8,507	‡21	21,630	10,548	2
Lehigh Coal and Navigation Co.													
Colliery No. 8,	Schuylkill,	.....	.....	14	1,668	1,668	.....	7	570	8	1,500	700	.....
Colliery No. 10,	Schuylkill,	36	624	.....	.....	624	2	8	353	4	3,322	1,661	.....
Colliery No. 11,	Schuylkill,	13	216	13	1,280	1,496	4	11	410	2	1,672	836	.....
Colliery No. 12,	Schuylkill,	6	120	9	1,150	1,270	.....	5	255	2	1,408	704	.....
Total,		55	960	36	4,098	5,058	6	31	1,588	8	7,902	3,901	.....
Lehigh Valley Coal Co.													
York Farm,	Schuylkill,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Blackwood,	Schuylkill,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Dodson Coal Co.													
Morea,	Schuylkill,	26	520	14	1,790	2,310	4	28	2,100	4	7,000	2,500	.....

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives—steam.	Number of steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.								
Truman M. Dodson Coal Co.													
Kaska William,	Schuylkill,	14	280	5	750	1,030	.....	9	1,140	2	2,350	700	1
St. Clair Coal Co.													
St. Clair,	Schuylkill,	9	450	8	1,200	1,650	2	26	964	3	770	350	.....
Beddall Bros.													
Greenwood,	Schuylkill,	.....	.....	7	490	490	2	7	225	.....	.....	.....	.....
Mitchell & Shepp.													
East Lehigh,	Schuylkill,	.....	.....	1	50	50	.....	3	56	.....	.....	.....	.....
Dunkleberger & Young.													
West Lehigh,	Schuylkill,	.....	.....	4	120	120	.....	5	95	.....	.....	.....	.....
Leisenring & Co.													
Oak Hill,	Schuylkill,	20	600	2	270	870	1	12	2,000	6	5,000	2,000	.....
Lytle Coal Co.													
Lytle,	Schuylkill,	4	60	23	4,285	4,345	1	8	1,242	10	5,000	2,500	3
Albright Coal Co.													
Albright,	Schuylkill,	8	240	3	475	715	.....	10	542	2	2,700	1,920	1
Marion Coal Co.													
Marion,	Schuylkill,	.....	.....	6	720	720	.....	4	600	2	1,500	500	1
Davis Bros.													
Ellsworth,	Schuylkill,	.....	.....	3	200	200	.....	4	125	.....	.....	.....	.....
E. C. White & Co.													
Howard,	Schuylkill,	6	90	1	75	165	.....	6	123	4	2,500	500	.....

Mt. Hope Coal Co.													
Mt. Hope,	Schuylkill,	9	150	8	500	650	2	14	325				
Williams Coal Co.													
Williams,	Schuylkill,			4	600	600		2	400	1	408	300	
East Ridge Coal Co.													
East Ridge,	Schuylkill,			3	375	375		13	270				
Pine Hill Coal Co.													
Pine Hill,	Schuylkill,			3	450	450		4	320	2	300	150	1
Losch, Moore & Co.													
Lorberry,	Schuylkill,			3	180	180		2	130				
Gorman, Campion & Co.													
Bell,	Schuylkill,			1	80	80		2	70				
Slattery Bros.													
Tuscarora,	Schuylkill,			2	80	80	1	2	30				
Jos. H. Denning.													
Sebastopol,	Schuylkill,	2	40			40		3	40				
Whims & Hepner.													
Jugular,	Schuylkill,			2	90	90		2	75				
Woodside Coal Co.													
Woodside,	Schuylkill,			4	300	300		5	150	3	1,500	500	
Hammer & Painter.													
Young's Landing,	Schuylkill,			1	75	75		2	50	1	200	100	
Stoddard Coal Co.													
Wolf Creek washery,	Schuylkill,	4	50	2	200	250		4	105				
Middleport Coal Co.													
Middleport washery,	Schuylkill,			3	40	40		1	18				

Recapitulation.

Philadelphia and Reading Coal and Iron Co.,	Schuylkill,	201	6,030	83	13,050	19,080	9	92	8,507	21	21,630	10,548	2
Lehigh Coal and Navigation Co.,	Schuylkill,	55	960	36	4,098	5,058	6	31	1,588	8	7,902	3,901	
Lehigh Valley Coal Co.,	Schuylkill,												
Miscellaneous coal companies,	Schuylkill,	98	2,430	108	13,155	15,585	13	173	11,072	40	29,228	12,020	7
Stoddard Coal Co., washery,	Schuylkill,	4	50	2	200	250		4	105				
Middleport Coal Co., washery,	Schuylkill,			2	40	40		1	18				
Grand total,		358	9,470	232	30,543	40,013	28	301	21,290	69	58,760	26,469	9

*2 tanks. †4 tanks. ‡6 tanks. §Hoisted.

TABLE III—Number of each class of employes at each colliery in the Eighth Anthracite District during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total, inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Phila. and Reading Coal and Iron Co.																
West Brookside,	4	8	337	242	56	20	298	925	1	18	42	131	3	193	388	1,313
Lincoln,	2	3	221	137	31	1	137	532	1	11	35	65	2	71	185	717
Good Spring,	1	3	137	31	9	4	56	241	1	5	15	95	2	126	244	485
Otto,	2	5	94	40	15	4	86	246	1	7	24	77	2	87	198	444
Phoenix Park No. 3,	1	4	112	41	9	4	56	227	1	5	10	60	1	37	114	341
Richardson,	1	5	65	9	11	16	84	191	1	4	21	63	2	58	149	340
Glendower,	1	4	84	49	22	6	85	251	1	10	22	72	3	82	189	440
Silver Creek,	1	10	269	62	31	7	223	603	1	9	23	146	2	95	276	879
Eagle Hill,	1	6	183	61	18	4	101	377	1	9	22	105	3	106	246	623
Wadesville,	1	2	13	63	.....	.....	41	70	1	8	17	.....	1	59	86	156
Total,	15	50	1,515	648	202	66	1,167	3,663	10	86	231	814	20	914	2,075	5,738
Lehigh Coal and Navigation Co.																
Colliery No. 8,	2	4	128	47	39	24	224	468	1	7	15	58	.....	62	143	611
Colliery No. 10,	1	3	85	68	33	11	119	320	1	8	24	88	.....	59	200	520
Colliery No. 11,	1	1	69	29	24	9	103	236	1	8	26	68	.....	69	172	402
Colliery No. 12,	1	1	.....	.....	1	.....	12	15	1	.....	6	.....	.....	6	13	28
Total,	5	12	282	135	97	44	458	1,033	4	23	71	214	.....	216	528	1,561

Lehigh Valley Coal Co.																
York Farm,	2	3	94	56	7	2	61	225	1	8	12	44	2	48	115	340
Blackwood,		1					2	3						1	1	4
Total,	2	4	94	56	7	2	63	228	1	8	12	44	2	49	116	344
Dodson Coal Co.																
Morea,	1	2	85	79	24	8	65	264	1	17	25	97	5	137	282	546
Truman M. Dodson Coal Co.																
Kaska William,	1	3	30	17	15	4	85	155	2	5	18	25	2	47	99	254
St. Clair Coal Co.																
St. Clair,	2	2	101	115	30	10	64	324	1	10	14	60	3	220	308	632
Beddall Bros.																
Greenwood,	1	1	46	10	7	3	32	100	1	4	6	25	2	37	75	175
Mitchell & Shepp.																
East Lehigh,	1		6	1	1			9	1		1	5		6	13	22
Dunkleberger & Young.																
West Lehigh,	1	1	23	4	4	1	2	36	1	1	4	13	1	7	27	63
Leisenring & Co.																
Oak Hill,	1	4	164	75	36	7	22	309	1	17	18	80	4	75	195	504
Lytle Coal Co.																
Lytle,	1	5	197	42	23	3	157	428	1	22	29	98	8	186	344	772
Albright Coal Co.																
Albright,	1	3	68	11	10		20	113	1	6	11	26	2	38	84	197
Marion Coal Co.																
Marion,	1	3	36	8	6	2	40	96	1	6	18	19	3	50	97	193
Davis Bros.																
Ellsworth,	1	1	10	22	5		6	45	1	2	4	18	1	14	40	85
E. C. White.																
Howard,	1	1	44		6	1	2	55	1	2	5	15	2	12	37	92
Mt. Hope Coal Co.																
Mt. Hope,	1	2	4		4		15	26	2	4	14	28	2	26	76	102
Williams Coal Co.																
Williams,	1	3	142	65	6	10	58	285	1	4	6	44	3	35	93	378
East Ridge Coal Co.																
East Ridge,	1	1	98	45	7	3	22	177	1	4	4	83	3	20	115	292

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total, inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Pine Hill Coal Co.																
Pine Hill,	1	2	60	20	3	.....	15	101	1	2	4	28	2	28	65	166
Losch, Moore & Co.																
Lorberry,	1	.....	35	14	6	8	3	67	1	2	2	18	2	20	45	112
Gorman, Campion & Co.																
Bell,	1	.....	26	5	3	.....	.....	35	1	1	1	11	1	10	25	60
Slattery Bros.																
Tuscarora,	1	.....	15	2	2	2	2	24	1	1	3	6	1	4	16	40
Joseph H. Denning.																
Sebastopol,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	3	2	1	18	25	25
Whims & Hepner.																
Jugular,	.....	.....	3	7	.....	.....	.....	10	.....	1	2	4	.....	5	12	22
Woodside Coal Co.																
Woodside,	1	1	78	28	16	2	21	147	1	10	5	19	3	51	89	236
Hammer & Painter.																
Young's Landing,	1	.....	3	4	.....	.....	.....	8	1	.....	3	3	.....	.....	7	15

Stoddard Coal Co.																
Wolf Creek washery									1	1	4	11	2	23	42	42
Middleport Coal Co.																
Middleport washery											2	1	1	10	14	14

Recapitulation.

Phila. and Reading Coal and Iron Co.,	15	50	1,515	648	202	66	1,167	3,663	10	86	231	814	20	914	2,075	5,738
Lehigh Coal and Navigation Co.,	5	12	282	135	97	44	458	1,033	4	23	71	214		216	528	1,561
Lehigh Valley Coal Co.,	2	4	94	56	7	2	63	228	1	8	12	44	2	49	116	344
Miscellaneous coal companies,	22	35	1,274	594	214	64	631	2,834	24	121	200	727	51	1,046	2,169	4,983
Stoddard Coal Co., washery,									1	1	4	11	2	23	42	42
Middleport Coal Co., washery,											2	1	1	10	14	14
Grand total,	44	101	3,165	1,413	520	176	2,319	7,738	40	239	520	1,811	76	2,258	4,944	12,682

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Phila. and Reading Coal and Iron Co.													
West Brookside,	21.4	13.4	15.3	11.7	12.2	14.8	16.8	22.4	21.3	23.4	20.4	18.3	211.4
Lincoln,	21.6	14.4	15.2	11.7	12.6	14.1	17.7	22.3	21.1	23.4	20.3	17.6	212
Good Spring,	21.6	14	15.3	11.7	12.2	13.2	17.1	21	21.7	23.4	20.1	17.6	208.9
Otto,	18	11.4	12.7	9.8	10.5	11.6	15	17.2	18.2	19.5	15.8	17.3	177
Phoenix Park No. 3,	18	11.5	12.7	9.8	9.3	12.8	15	17.2	18	19.5	16	17.3	177.1
Richardson,	17.8	10.3	6.3	1.5	10.4	11.7	15	17.2	18.2	19.4	15.7	17.1	160.6
Glendower,	18	10	12.7	9.8	10.5	12.4	15	17.2	17.8	19.5	15 5	17.3	175.7
Silver Creek,	17.7	12.8	12.7	9.8	10.5	12.7	14.5	17.3	17.8	21.6	19.7	17.6	184.7
Eagle Hill,	17.4	10	12.7	9.8	10.5	12.5	14.7	12	17.1	21.6	20.1	17.6	176
Wadesville,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	9.7	16.6	26.3
Average,	19.05	11.97	12.84	9.51	10.96	12.86	15.64	18.2	19	21.25	17.33	17.43	186
Lehigh Coal and Navigation Co.													
Colliery No. 8,	17.3	11.5	19.8	17	17.3	16.1	17.8	20.4	17.3	18.6	20.5	20.3	213.9
Colliery No. 10,	18.9	13.8	16.8	16	15	15.1	16.5	17.7	15.9	18.6	18.5	20.8	203.9
Colliery No. 11,	18.1	14.1	19.3	15.8	14.8	15.5	10.5	17.1	14.4	18.4	18.3	21	197.3
Colliery No. 12,	*	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average,	18.1	13.13	18.63	16.26	15.7	15.66	14.93	18.4	15.86	18.53	19.1	20.7	205

Lehigh Valley Coal Co.													
York Farm,	18.7	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.7
Blackwood,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Average,	18.7	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.7
Dodson Coal Co.													
Morea,	23.6	18	23.5	19.3	17.7	22.2	20.3	23.7	20.7	22.2	22.8	21.3	255.3
Truman M. Dodson Coal Co.													
Kaska William,	19.4	17.8	21.6	19.4	21.7	20.7	17	21.1	19.7	21.6	20	10	230
St. Clair Coal Co.													
St. Clair,	19.7	13.1	15.6	10.7	11.3	13.9	19.9	15.9	14.1	1.3	17.2	17.9	170.6
Beddall Bros.													
Greenwood,	21	16.9	21.4	18.4	19.9	19	19.9	20.3	17.5	20.3	21.1	20.6	236.3
Mitchell & Shepp.													
East Lehigh,	19	18	20	17	15	9	17	18	21	22	22	22	220
Dunkleberger & Young.													
West Lehigh,	17	16	21	19	14	12	21	23	24	26	19	22	234
Leisenring & Co.													
Oak Hill,	19.6	12.8	14	11.3	13.3	15.7	18.1	19.9	21.9	24.1	15.7	20.9	207.3
Lytle Coal Co.													
Lytle,	17.7	15.4	21.6	20.1	21.7	21.5	17.1	18.5	18.5	19.3	17.7	16.4	225.5
Albright Coal Co.													
Albright,	18	10	15	12	13	15	15	18	15	17	15	12	175
Marion Coal Co.													
Marion,	9.2	7.8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	17
Davis Bros.													
Ellsworth,	19.5	20.4	22	17	13.5	16	17.1	21	22.1	25	20.5	21.5	235.6
E. C. White.													
Howard,	17.9	12.7	7.8	13.4	17.8	17.3	20	20	17	21.5	17.4	12	194.8
Mt. Hope Coal Co.													
Mt. Hope,	20.5	13	15	13	13	13	12	18	19	20	17	19	192.5
Williams Coal Co.													
Williams,	18.9	12.5	16.7	12.4	11.1	14	11.4	19.8	19.2	21.1	17.9	18.7	193.7
East Ridge Coal Co.													
East Ridge,	13.1	5.9	13.6	12	15.2	14.3	12.9	11.8	13.2	14.3	13.4	15.8	155.5

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month in Breaker.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Pine Hill Coal Co.													
Pine Hill,	17	8	.....	5	5	.....	.....	.....	.....	.....	.....	.....	35
Losch, Moore & Co.													
Lorberry,	16.4	7.9	16.7	15.4	15.1	14.9	15.8	18.4	17.6	22.3	22.4	19.2	202.1
Gorman, Campion & Co.													
Bell,	17.5	11.25	13.75	9	9.75	5	15	18	20	24	21	17	181.25
Slattery Bros.													
Tuscarora,	17.3	12	19	13	14.5	12	11	15	13	7	19	16.6	170
Joseph H. Denning													
Sebastopol,	24	23	21	19	22	24	23	26	24	26	25	24	281
Whims & Hepner.													
Jugular,	15	13	14	15	16	17	12	21	19	20	23	20	205
Woodside Coal Co.													
Woodside,	.....	.....	.....	10	15	18	18	20	20	21	22	20	164
Hammer & Painter.													
Young's Landing,	.....	.....	.....	.....	.....	.....	.....	.....	15	24	23	23	85

Stoddard Coal Co.													
Wolf Creek washery,	20.6	13.2	15	11.6	13.1	14.1	16.9	18.1	14.8	23	19.7	19.7	199.6
Middleport Coal Co.													
Middleport washery,							4	18	22	24	24	19	111

Recapitulation.

Phila. and Reading Coal and Iron Co.,	19.5	11.97	12.84	9.51	10.96	12.86	15.64	18.2	19	21.25	17.33	17.43	186
Lehigh Coal and Navigation Co.,	18.1	13.13	18.63	16.26	15.7	15.66	14.93	18.4	15.86	18.53	19.1	20.7	205
Lehigh Valley Coal Co.,	18.7	9											27.7
Miscellaneous coal companies,	18.2	13.6	17.5	14.3	15	15.7	16.7	19.3	18.6	20	19.6	18.6	206.5
Stoddard Coal Co., washery,	20.6	13.2	15	11.6	13.1	14.1	16.9	18.1	14.8	23	19.7	19.7	199.8
Middleport Coal Co., washery,							4	18	22	24	24	19	111
General average,	19	12.2	16	13	13.7	14.5	13.6	18.4	18	21.4	20	19	†198.8

*Colliery idle all year.

†Average number of days worked.

TABLE IV—List of fatal accidents that occurred in and about the mines of the Eighth Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 7.	Michael Thornton,	Breaker oiler,	17	S.	....	....	Kaska William,	Schuylkill,	Killed instantly by being caught in screen wheels while oiling.
9.	Simon Gravinus,	Miner,	34	S.	....	....	Lytle,	Schuylkill,	Killed by shot going off before he got away from it; he had shortened the match.
21.	John Withkufski,	Miner,	37	M.	1	1	Silver Creek,	Schuylkill,	Injured by fall of slate; died on 22d.
23.	Joseph Smith,	Miner,	29	M.	1	....	Greenwood,	Schuylkill,	Injured by fall of slate; died same day.
25.	George Stahl,	Timberman,	34	M.	1	2	West Brookside,	Schuylkill,	Killed by a piece of coal falling on him while making place for timber.
Feb. 3.	Patrick Callahan,	Driver, outside,	18	S.	....	....	Kaska William,	Schuylkill,	Kicked by a mule; died February 18.
9.	Edward Fisher,	Driver,	21	S.	....	....	Howard,	Schuylkill,	Kicked by a mule; died April 10.
Mar. 7.	Mich. Pollick,	Miner,	44	M.	1	4	Williams,	Schuylkill,	Killed by a fall of slate at face of breast.
21.	Simon Lorchek,	Miner,	26	M.	1	2	No. 8 colliery, L. C. & Nav. Co.	Schuylkill,	Killed by rush of debris and water that had blocked behind the chute battery.
25.	Dan'l Updegrave,	Miner,	60	M.	1	....	West Brookside,	Schuylkill,	Smothered by gas; he went into a heading knowing there was gas there.
May 8.	Luke McGann,	Miner,	28	M.	1	1	Otto,	Schuylkill,	Cut his leg with an axe; died from blood poisoning June 11.
June 29.	Stanley Selefski,	Miner,	35	S.	....	....	Williams,	Schuylkill,	Burned by an explosion of gas; died June 30.
July 8.	Irvin Owens,	Driver,	20	S.	....	....	West Brookside,	Schuylkill,	Killed by timber falling on him.
12.	John S. Wolf,	Miner,	67	M.	1	1?	Lincoln,	Schuylkill,	Killed by a fall of coal at face of breast.
14.	Uriah Wise,	Miner,	33	M.	1	6	West Brookside,	Schuylkill,	Killed by fall of rock.
15.	John Kormack,	Miner,	32	S	....	....	Morea,	Schuylkill,	Killed by fall of coal.
26.	William Reese,	Slate picker,	12	S.	....	....	Eagle Hill,	Schuylkill,	Injured by falling into elevators; died July 27.
Aug. 2.	Larry Gaughan,	Drill runner,	25	M.	1	....	Pine Hill,	Schuylkill,	Skull fractured by falling down shaft; died August 5.
9.	Emanuel Herman,	Miner,	39	M.	1	6	Williams,	Schuylkill,	Injured by fall of coal; died August 19.
10.	Simon Bolonis,	Miner,	39	W.	....	1	Bell,	Schuylkill,	Killed by a fall of rock.
16.	Isaac Jenkins,	Miner,	41	M.	1	2	No. 11 col., L. C. & N. Co.	Schuylkill,	Killed by a fall of coal.
17.	Wm. Aungst,	Miner,	26	M.	1	2	Lincoln,	Schuylkill,	Severely injured by a fall of coal; died same day.
30.	James Callery,	Driver,	19	S.	....	....	Silver Creek,	Schuylkill,	Killed by being caught between timber and wagon that had jumped the track.

	31.	William McGee,	Repairman,	35	S.	....	....	Lytle,	Schuylkill,	Burned by an explosion of gas; died September 8.
Sept.	9.	Robert Gannon,	Breaker boy,	16	S.	....	....	St. Clair,	Schuylkill,	Severely injured by falling on shaker screen; died on way to hospital.
	26.	Frank Longreen,	Miner,	39	M.	1	....	West Brookside,	Schuylkill,	Killed by falling down manway of breast.
Oct.	8.	William Kay,	Miner,	26	S.	....	....	Greenwood,	Schuylkill,	Injured by a fall of slate; died at hospital on same day.
	19.	Joseph Seykeneco,	Laborer, outside,	18	S.	....	....	St. Clair,	Schuylkill,	Severely injured by falling under dumper; died October 22.
Nov.	15.	William Simmons,	Slate picker,	13	S.	....	....	St. Clair,	Schuylkill,	Fell from breaker while playing; died November 17.
	18.	Mich. Kovell,	Miner,	40	M.	1	3	Lytle,	Schuylkill,	Killed while going back to a shot which he thought had missed fire.
	20.	Martin O'Brien,	Miner,	23	M.	1	1	Glendower,	Schuylkill,	Killed by falling down fanway, which he was timbering.
Dec.	1.	Gordon Troutman,	Laborer,	25	M.	1	....	West Brookside,	Schuylkill,	Killed by a fall of rock.
	14.	Edward Lashenskie,	Topman,	21	S.	....	....	Morea,	Schuylkill,	Killed by falling down shaft.
	18.	Wm. Calloway,	Fire boss,	32	M.	1	2	Kaska William,	Schuylkill,	Entombed and smothered by black damp; body recovered January 17, 1900.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Eighth Anthracite District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 10.	George Reese,	Miner,	57	W.	Eagle Hill,	Schuylkill,	Two ribs broken by falling down a chute.
13.	Wash. Ormine,	Fire boss,	41	M.	Marion,	Schuylkill,	Severely injured by a column pipe breaking.
15.	George Crawlie,	Laborer,	34	M.	Albright,	Schuylkill,	Injured by a fall of coal.
21.	Charles Zerbe,	Miner,	30	M.	Otto,	Schuylkill,	Hands and face burned by an explosion of gas.
28.	Wm. Martin,	Slate picker,	13	S.	St. Clair,	Schuylkill,	Both legs broken; caught in slate conveyors.
Feb. 8.	Louis Rizzi,	Rock man,	30	S.	Richardson,	Schuylkill,	Severely injured by explosion of blast.
22.	John Krebs,	Miner,	45	M.	Silver Creek,	Schuylkill,	Three fingers blown off and both eyes injured by premature explosion of blast.
Mar. 7	John Hillendorf,	Door boy,	16	S.	Morea,	Schuylkill,	Collar bone and two ribs broken; caught between wagon and box.
16.	John Cummins,	Miner,	47	M.	Jugular,	Schuylkill,	Leg broken by a fall of coal at stripping.
17.	Samuel Wagner,	Road man,	30	M.	No. 10, L. C. & N. Co.,	Schuylkill,	Leg broken by timber falling on him
27.	Joseph Donahoe,	Bottom man,	26	S.	Lytle,	Schuylkill,	Severely injured by being caught by cage while cleaning cage pit.
April 1.	John Gittins,	Laborer,	30	M.	Williams,	Schuylkill,	Leg broken by a fall of slate.
2.	James Doyne,	Driver,	21	S.	Williams,	Schuylkill,	Leg injured; caught between mine cars.
3.	John Boner,	Laborer,	19	S.	No. 11, L. C. & N. Co.,	Schuylkill,	Leg broken; caught between mine cars.
8.	Emil Kapton,	Miner,	37	M.	St. Clair,	Schuylkill,	Head and neck severely injured by a fall of coal.
19.	Joseph Borcosky,	Miner,	40	M.	Morea,	Schuylkill,	Foot severely injured by a fall of coal.
21.	John Bean,	Miner,	32	M.	Kaska William,	Schuylkill,	Head severely injured by a piece of coal falling down manway.
21.	John Wolfgang,	Laborer,	20	M.	West Brookside,	Schuylkill,	Arm broken by wagon on which he was riding getting off track.
24.	Thomas Watkins,	Outside laborer,	46	S.	St. Clair,	Schuylkill,	Leg broken; caught by shop engine shaft while at work
May 4.	John Boz,	Laborer,	20	S.	Lytle,	Schuylkill,	Leg broken by falling in slope.
15.	Stuney Glotches,	Miner,	24	M.	Silver Creek,	Schuylkill,	Leg broken by a fall of coal.
17.	Joseph Katonski,	Miner,	25	S.	Eagle Hill,	Schuylkill,	Hands and face burned by an explosion of gas.
19.	Mich. McAndrew,	Laborer,	20	S.	Lytle,	Schuylkill,	Head severely injured by being squeezed between mine car and timber.
20.	Patrick Gleason	Driver,	24	S.	Lytle,	Schuylkill,	Arm crushed by falling under mine cars.
24.	Mich. Kovitch,	Miner,	27	S.	St. Clair,	Schuylkill,	Head and body injured; struck by mine car.
26.	George Rose,	Driver,	17	S.	Lytle,	Schuylkill,	Arm cut off; fell under mine cars.
29.	Joseph Genlick,	Driver, outside,	27	S.	St. Clair	Schuylkill	Injured internally by falling under dumper on stripping.

June	7,	Neil Weightman,	Loader,	52	M.	Mt. Hope,	Schuylkill,	Foot severely injured by coal sliding on him at stripping.
	20,	Anthony Budofski,	Miner,	40	M.	Williams,	Schuylkill,	Burned by an explosion of gas.
	23,	Mich. Setlock,	Miner,	38	M.	St. Clair,	Schuylkill,	Severely injured by a fall of coal.
	29,	Mich. Mahulski,	Laborer,	40	M.	Lytle,	Schuylkill,	Leg broken by a fall of rock.
	29,	Daniel Maloy,	Driver, outside,	17	S.	No. 10, L. C. & N. Co.,	Schuylkill,	Leg cut off; fell under car on rock bank.
	30,	Wm. Battersby,	Miner,	54	M.	Eagle Hill,	Schuylkill,	Back and hips injured by a fall of slate.
July	8,	John Purcell,	Driver,	16	S.	Oak Hill,	Schuylkill,	Foot crushed; caught between mine cars.
	13,	John Murray,	Driver,	23	S.	Silver Creek,	Schuylkill,	Body injured; caught between car and face of back switch.
	14,	Robert Nolan,	Driver,	21	S.	St. Clair,	Schuylkill,	Ankle broken; caught by tail rope at bottom of slope.
	18,	Sylvester Ott,	Miner,	26	M.	Lincoln,	Schuylkill,	Severely injured by a fall of rock.
	25,	William Corby,	Outside laborer,	19	S.	St. Clair,	Schuylkill,	Head severely injured; struck by piece of rock from a blast.
	28,	Wm. E. Davis,	Miner,	49	M.	No. 8, L. C. & N. Co.,	Schuylkill,	Hands and face burned by an explosion of gas.
	28,	John E. Davis,	Miner	21	S.	No. 8, L. C. & N. Co.,	Schuylkill,	
	31,	Isaac Heulet,	Loader,	24	M.	Eagle Hill,	Schuylkill,	Hands and face burned by an explosion of gas.
	31,	Robert Larkin,	Fire boss,	39	M.	Eagle Hill,	Schuylkill,	Hands and face burned by an explosion of gas.
	31,	Thomas Carroll,	Miner,	40	M.	Eagle Hill,	Schuylkill,	Hands and face burned by an explosion of gas.
	31,	John D. Jenkins,	Miner,	32	M.	Lytle,	Schuylkill,	Injured by falling down a chute.
Aug.	1,	John Gerber,	Tip man, outside,	23	M.	Greenwood,	Schuylkill,	Foot broken; caught under wheel of mine car.
	9,	Joseph McKeon,	Slate picker,	15	S.	St. Clair,	Schuylkill,	Head injured by falling in breaker.
	11,	Frank Campbell,	Machinist,	25	S.	St. Clair,	Schuylkill,	Scalded by steam pipe bursting.
	31,	Wm. Barr,	Miner,	38	M.	West Brookside,	Schuylkill,	Head and foot injured by a fall of coal.
Sept.	22,	Richard Hobin,	Miner,	37	M.	No. 8, L. C. & N. Co.,	Schuylkill,	
	22,	Evan Phillips,	Miner,	32	M.	No. 8, L. C. & N. Co.,	Schuylkill,	Burned by an explosion of gas.
	22,	Neil McNeilus,	Battery starter,	38	M.	No. 8, L. C. & N. Co.,	Schuylkill,	
	22,	Anthony Frascola,	Battery starter,	28	S.	No. 8, L. C. & N. Co.,	Schuylkill,	
	23,	Wm. Goodman,	Miner,	30	M.	Howard,	Schuylkill,	Head injured by being struck by a prop which was knocked out by fall of coal.
	27,	Joseph Frankavage,	Miner,	30	M.	Williams,	Schuylkill,	Head and leg injured by a fall of bony coal.
Oct.	4,	Patrick Scanlin,	Miner,	22	S.	Mt. Hope,	Schuylkill,	Burned by explosion of powder while charging a hole at stripping.
	4,	Mich. Brennan,	Miner,	30	M.	Mt. Hope,	Schuylkill,	
	8,	Frank Schoffstall,	Miner,	25	S.	Greenwood,	Schuylkill,	Leg broken by a fall of slate.
	11,	Mich. Comak,	Miner,	28	S.	Eagle Hill,	Schuylkill,	Head and face injured by a fall of coal.
	18,	Wm. Pierce,	Carpenter,	25	M.	Lytle,	Schuylkill,	Arm broken by a derrick pole rolling on it.
Nov.	3,	John Morgan,	Miner,	26	S.	Good Spring,	Schuylkill,	Severely injured by falling down manway.
	10,	Joseph Martinitus,	Miner,	30	S.	Silver Creek,	Schuylkill,	Leg broken by a fall of slate.
	14,	Theodore Valentine,	Chute tender,	16	S.	No. 11, L. C. & N. Co.,	Schuylkill,	Arm and leg broken by falling into scraper line while trying to step over it.
	14,	Henry Bosche,	Driver, outside,	18	S.	Mt. Hope,	Schuylkill,	Leg broken; caught between car and mule spreader chain.
	21,	Wm. Griffin,	Battery starter,	24	S.	Eagle Hill,	Schuylkill,	Injured by falling down a chute.
	21,	Simon Gilda,	Miner,	40	S.	Eagle Hill,	Schuylkill,	Head cut and two ribs broken; raised his head too high while riding up slope.
	21,	F. Vitchak,	Miner,	28	S.	Eagle Hill,	Schuylkill,	Hands and face burned by explosion of gas.

BITUMINOUS MINE DISTRICTS.

FIRST BITUMINOUS DISTRICT.

ALLEGHENY, FAYETTE, GREENE, WASHINGTON AND WESTMORELAND COUNTIES.

Monongahela, Pa., April 3, 1900.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: I have the honor of presenting to you my annual report as Inspector of Mines for the First Bituminous coal district for the year ending December 31, 1899.

During the year 9,295,646 tons of coal were produced in the district; being an increase of 386,307 tons over the production of the previous year.

The report shows an increase of two fatal and four non-fatal accidents during the year, as compared with 1898.

A number of suits were entered against persons for violation of the act of May 15, 1893, relating to Bituminous coal mines—chief among which was that against Martin Lee and Thomas Hogan for the violation of Rule 63 of the "Rules General and Special." These men were employed as miners in the Vesta No. 1 mine and fired a blast without giving the proper warning as required by the above mentioned rule; the blast went through the rib, causing the death of David Nichols who was at work in the adjoining room. This case was returned to court —the others I deemed proper to compromise on the payment of the costs—and leniency being recommended by the friends of the deceased and others interested, and the same coming to the knowledge of the court, Lee and Hogan were released upon the payment of $10.00 fine and the cost of prosecution.

A brief description of each mine in the district is given, also a statement of their condition as relates to ventilation and drainage.

Owing to my inability to get the data required for the several tables which accompany this report, they are not as complete as they would otherwise have been.

This matter has also caused a considerable delay in the transmittal of the same to your office.

Yours very respectfully,

HENRY LOUTTIT,
Inspector of Mines.

MINING STATISTICS.

Number of mines in the district,	76
Number of mines in operation during 1899,	70
Number of tons of coal produced,	9,295,646
Number of tons shipped,	9,158,833
Number of tons used for steam at mines,	77,189
Number of tons sold to employes and others,	59,624
Number of persons employed inside the mines,	8,837
Number of persons employed outside the mines,	1,043
Number of fatal accidents,	44
Number of tons of coal produced per fatal accident,	211,264
Number of non-fatal accidents,	114
Number of tons of coal produced per non-fatal accident,	81,540
Number of persons employed per fatal accident,	224
Number of persons employed per non-fatal accident,	86
Number of wives made widows by accidents,	24
Number of orphans by accidents,	97
Number of kegs of powder used,	30,879
Number of pounds of dynamite used,	4,430
Number of cylindrical boilers,	43
Number of tubular boilers,	112
Number of steam locomotives,	2
Number of air locomotives,	3
Number of electric locomotives,	9
Number of new mines opened,	1

TABLE A.—Showing the Production of Coal, Number of Persons Employed by each Company during the Year 1899, and the Average Number of Tons Produced per Employe.

Name of Company.	Number of tons produced.	Number of persons employed.
Monongahela River C., C. & C. Co.,	1,260,483	1,437
Pittsburgh Coal Company,	2,284,036	2,386
W. H. Brown's Sons,	213,815	451
Vesta Coal Company,	512,873	370
California Coal Company,	326,279	235
C. Jutte & Company,	371,587	520
P. J. Forsyth,	175,776	177
James Black,	3,668	58
Crowthers & Company,	41,265	84
George Lysle & Sons,	95,750	215
W. B. Rodgers,	153,368	118
Riverville Coal Company,	66,875	100
Stockdale Coal Company,	245,013	260
Allen Coal Company,	53,297	39
Tide Coal Company,	300,221	272
Bailey, Wilson & Company,	91,181	176
Ella Coal Company,	124,031	194
Pursglove, Gordon & Company,	27,300	144
Bunola Mining Company,	193,683	134
Joseph Walton & Company,	112,158	275
Charleroi Coal Company,	207,358	166
Shoenberger Coal Company,	124,515	154
Knob Coal Company,	122,190	168
Flint & Company,	87,914	75
Robert Jenkins,	62,987	120
Umpire Coal Company,	35,421	149
Snowden, Gould & Company,	188,800	145
Smith & Company,	24,897	70
Little Redstone Coal Company,	226,526	169
Catsburg Coal Company,	475,900	255
James Jones,	304,827	185
Ivill Coal Company,	315,070	190
Rostraver Coal Company,	121,582	130
A. G. & J. E. Leonard,	125,000	104
John A. Wood & Son,	195,000	99
Hilldale Coal Company,	25,000	76
Total,	9,295,646	9,880

Number of tons produced per employe, 940.8.

TABLE B—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Name of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
Monongahela River C., C. & C. Co.,	1	315,120
Pittsburgh Coal Company,	14	163,145
W. H. Brown's Sons,		213,815
Vesta Coal Company,	2	256,436
California Coal Company,	1	326,279
C. Jutte & Company,	1	371,587
P. J. Forsythe,	1	175,776
James Black,		3,668
Crowthers & Company,		41,265
Geo. Lysle & Sons,	2	47,875
W. B. Rodgers,	1	153,268
Riverville Coal Company,		66,875
Stockdale Coal Company,	3	81,671
Allen Coal Company,		53,297
Tide Coal Company,		300,221
Bailey, Wilson & Company,		91,181
Ella Coal Company,		124,031
Pursglove, Gordon & Company,		27,300
Bunola Mining Company,		193,683
Joseph Walton & Company,		112,158
Charleroi Coal Company,	1	207,358
Shoenberger Coal Company,	1	124,515
Knob Coal Company,	2	61,095
Flint & Company,	1	87,914
Robert Jenkins,		62,987
Umpire Coal Company,		35,421
Snowden, Gould & Company,	1	188,800
Smith & Company,		24,897
Little Redstone Coal Company,		226,526
Catsburg Coal Company,	2	237,950
James Jones,	1	304,827
Ivill Coal Company,	1	315,070
Rostraver Coal Company,		121,582
A. G. & J. E. Leonard,	2	62,500
John A. Wood & Son,	3	65,000
Hilldale Coal Company,		25,000
Total and average,	44	211,264

TABLE C—Showing the Number of Fatal and Non-Fatal Accidents, and the Number of Tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Number of tons of coal produced per accident.
Monongahela River C., C. & C. Co.,	18	70,026
Pittsburgh Coal Company,	45	50,756
W. H. Brown's Sons,	6	25,635
Vesta Coal Company,	4	128,218
California Coal Company,	8	40,784
C. Jutte & Company,	7	53,083
P. J. Forsyth,	2	87,888
James Black,	.....	3,663
Crowthers & Company,	.....	41,265
George Lysle & Sons,	2	47,875
W. B. Rodgers,	1	153,368
Riverville Coal Company,	.....	66,875
Stockdale Coal Company,	5	49,002
Allen Coal Company,	3	17,765
Tide Coal Company,	.....	300,221
Bailey, Wilson & Company,	1	91,191
Ella Coal Company,	8	15,503
Pursglove Gordon & Company,	2	13,650
Bunola Mining Company,	1	193,683
Joseph Walton & Company,	2	56,079
Charleroi Coal Company,	5	41,471
Shoenberger Coal Company,	4	31,128
Knob Coal Company,	4	30,547
Flint & Company,	1	87,914
Robert Jenkins,	1	62,987
Umpire Coal Company,	3	11,807
Snowden, Gould & Company,	5	37,760
Smith & Company,	.....	24,897
Little Redstone Coal Company,	1	226,526
Catsburg Coal Company,	5	95,180
James Jones,	2	152,413
Ivill Coal Company,	2	157,535
Rostraver Coal Company,	3	40,527
A. G. & J. E. Leonard,	3	41,666
John A. Wood & Son,	4	48,750
Hilldale Coal Company,	.....	25,000
Total and average,	158	58,833

TABLE D—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured.	Injured.	Total.
Fall of slate,	28	52	80
Fall of coal,	.....	6	6
Fall of coal and slate,	3	6	9
Fall of roof coal,	1	4	5
Fall of "horse back,"	1	2	3
By being caught between motor and pillar,	1	.....	1
By explosion of fire damp,	1	5	6
Run over by cars,	1	8	9
Falling from tipple,	.....	1	1
By bursting of a wheel,	1	.....	1
Fall of roof coal and shale,	1	.....	1
By Dilly trip,	1	.....	1
By blast through rib,	1	1	2
By the bursting of a boiler,	1	.....	1
Struck by timber thrown by a wheel,	1	.....	1
Fall of coal, slate and roof,	1	.....	1
Miscellaneous outside,	1	24	25
Miscellaneous inside,	.....	5	5
Total,	44	114	158

TABLE E—Occupations of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners,	18	73	91
Day hand,	.....	3	3
Drivers,	1	14	15
Hitchers,	.....	1	1
Door boys,	.....	2	2
Loaders,	20	11	31
Machine runners,	1	2	3
Helpers,	.....	1	1
Fire boss,	.....	1	1
Night engineer,	1	.....	1
Bit sharpener,	1	.....	1
Riverman,	1	.....	1
Superintendent,	1	.....	1
Furnaceman,	.....	1	1
Scraper,	.....	1	1
Weighman,	.....	1	1
Assistant foreman,	.....	1	1
Laborer,	.....	1	1
Mine foreman,	.....	1	1
Total,	44	114	158

TABLE F—Nationality of Persons Killed or Injured.

Nationality.	Killed.	Injured.	Total.
Americans,	11	40	51
English,	4	9	13
Germans,	4	11	15
Irish,	2	4	6
Scotch,	2	3	5
Welsh,	1	3	4
French,	.....	2	2
Belgians,	.....	1	1
Hungarians,	3	5	8
Russians,	1	1	2
Slavs,	3	16	19
Italians,	7	8	15
Austrians,	2	5	7
Swedes,	1	2	3
Poles,	3	4	7
Total,	44	114	158

Production of Coal in Tons During the Year 1899.

Monongahela River Consolidated Coal and Coke Company,	1,260,483
Pittsburgh Coal Company,	2,284,036
W. H. Brown's Sons,	213,815
Vesta Coal Company,	512,873
California Coal Company,	326,279
C. Jutte & Company,	371,587
P. J. Forsyth,	175,776
James Black,	3,668
Crowthers & Company,	41,265
George Lysle & Sons,	95,750
W. B. Rodgers,	153,368
Riverville Coal Company,	66,875
Stockdale Coal Company,	245,013
Allen Coal Company,	53,297
Tide Coal Company,	300,221
Bailey, Wilson & Company,	91,181
Ella Coal Company,	124,031
Pursglove, Gordon & Company,	27,300
Bunola Mining Company,	193,683
Joseph Walton & Company,	112,158
Charleroi Coal Company,	207,358
Shoenberger Coal Company,	124,515
Knob Coal Company,	122,190
Flint & Company,	87,914

Robert Jenkins,	62,987
Empire Coal Company,	35,421
Snowden, Gould & Company,	188,800
Smith & Company,	24,897
Little Redstone Coal Company,	226,526
Catsburg Coal Company,	475,900
James Jones,	304,827
Ivill Coal Company,	315,070
Rostraver Coal Company,	121,582
A. G. & J. E. Leonard,	125,000
John A. Wood & Son,	195,000
Hilldale Coal Company,	25,000
Total,	9,295,646

The total production was made up as follows:

Shipped by railroad and river to market,	9,158,833
Sold at the mines for local use,	59,624
Consumed to generate steam,	77,189
Total,	9,295,646

Statement Showing the Total Quantity of Coal Mined by Pick, Compressed Air and Electrical Machines, &c.

Compressed air machines,	1,265,192
Electrical machines,	4,181,102
By pick,	3,308,181
By combined methods,	541,171
Totals, estimated,	9,295,646

TABLE—Giving Name of Mine, of Operator, Method of Haulage, Ventilation, whether Drift, Slope or Shaft, Pick or Machine Mine

Name of Mine.	Operator.	Haulage.	Fan or Furnace.	Drift, Slope or Shaft.	Pick or Machine Mine.	Type of Machines.
Cincinnati,	M. R. C., C. & C. Co....	Rope and mule,	Fan,	Drift,	Pick.	
Fayette City,	M. R. C., C. & C. Co....	Rope and mule,	Fan,	Drift,	Machine,	Compressed air.
Coal Bluff,	M. R. C., C. & C. Co....	Rope and mule,	Furnace,	Drift,	Pick.	
Stony Hill,	M. R. C., C. & C. Co....	Rope and mule,	Furnace,	Slope and drift,	Pick.	
Fox,	M. R. C., C. & C. Co....	Mule,	Furnace,	Drift,	Pick.	
Amity,	M. R. C., C. & C. Co....	Mule,	Furnace,	Drift,	Pick.	
Rock Run,	M. R. C., C. & C. Co....	Mule,	Furnace,	Drift,	Pick.	
Snow Hill,	M. R. C., C. & C. Co....	Rope and mule,	Fan,	Drift,	Pick.	
Champion,	M. R. C., C. & C. Co....	Rope and mule,	Furnace,	Drift,	Machine,	Electric.
Eclipse (river),	M. R. C., C. & C. Co....	Rope and mule,	Fan,	Drift,	Pick.	
Fidelity,	Pittsburgh Coal Co.,	Mule,	Furnace,	Drift,	Pick.	
Blythe,	Pittsburgh Coal Co.,	Rope and mule,	Fan,	Drift,	Pick.	
Courtney,	Pittsburgh Coal Co.,	Rope and mule,	Furnace,	Slope,	Pick.	
Banner,	Pittsburgh Coal Co.,	Rope and mule,	Furnace,	Drift,	Machine,	Electric.
Eclipse (railroad),	Pittsburgh Coal Co.,	Rope and mule,	Fan,	Drift,	Machine,	Electric.
Nottingham,	Pittsburgh Coal Co.,	Mule,	Furnace,	Drift,	Pick.	
Germania,	Pittsburgh Coal Co.,	Mule,	Furnace,	Drift,	Pick.	
Snowden,	Pittsburgh Coal Co.,	Rope and mule,	Fan,	Drift,	Pick.	
Arnold No. 1,	Pittsburgh Coal Co.,	Motor and Mule,	Fan,	Drift,	Machine,	Electric.
Arnold No. 2,	Pittsburgh Coal Co.,	Motor and Mule,	Fan,	Drift,	Machine,	Electric.
Arnold No. 3,	Pittsburgh Coal Co.,	Mule,	Fan,	Shaft,	Machine,	Compressed air.
Cleveland,	Pittsburgh Coal Co.,	Rope and mule,	Fan,	Drift,	Machine,	Electric.
Somers No. 2,	Pittsburgh Coal Co.,	Motor and mule,	Fan,	Drift,	Machine,	Electric.
Somers No. 3,	Pittsburgh Coal Co.,	Rope and mule,	Furnace,	Slope,	Pick.	
Equitable,	Pittsburgh Coal Co.,	Rope and mule,	Fan,	Drift,	Machine,	Electric.
North Webster,	Pittsburgh Coal Co.,	Rope and mule,	Furnace,	Drift,	Machine,	Electric.
Manown,	Pittsburgh Coal Co.,	Rope and mule,	Fan,	Drift,	Machine,	Compressed air.
Hackett,	Pittsburgh Coal Co.,	Mule,	Furnace,	Drift,	Machine,	Electric.
Anderson,	Pittsburgh Coal Co.,	Rope and mule,	Furnace,	Drift,	Pick.	
Gastonville,	Pittsburgh Coal Co.,	Rope and mule,	Furnace,	Drift,	Pick.	
Shepplar,	Pittsburgh Coal Co.,	Rope and mule,	Furnace,	Drift,	Machine,	Electric.
Old Eagle,	W. H. Brown's Sons,	Locomotive and mule,	Fan,	Drift,	Pick.	
Mongah,	W. H. Brown's Sons,	Mule,	Fan,	Drift,	Pick and machine,	Electric and compressed air.
Black Diamond,	W. H. Brown Sons,	Rope and mule,	Fan,	Drift,	Pick.	
Vesta No. 1,	Vesta Coal Co.,	Rope and mule,	Fan,	Drift,	Machine,	Compressed air.
Vesta No. 2,	Vesta Coal Co.,	Rope and mule,	Fan,	Drift,	Machine,	Compressed air.
Vesta No. 3,	Vesta Coal Co.,	Rope and mule,	Furnace,	Drift,	Pick.	
Vigilant,	California Coal Co.,	Rope, mule and motor,	Fan,	Slope,	Machine,	Electric.
Crescent,	California Coal Co.,	Rope and mule,	Fan,	Slope,	Machine,	Electric.
Clipper,	C. Jutte & Co.,	Rope and mule,	Fan and furnace,	Drift,	Pick.	
Christinia,	C. Jutte & Co.,	Rope and mule,	Fan,	Drift and slope,	Pick.	
Apollo,	C. Jutte & Co.,	Rope and mule,	Fan,	Drift,	Pick.	
Coal Centre,	P. J. Forsythe,	Rope and mule,	Fan,	Drift,	Pick.	
Little Alps,	James Black,	Mule,	Furnace,	Drift,	Pick.	
Crowthers,	Crothers & Co.,	Mule,	Furnace,	Drift,	Pick.	

Name of Mine.	Operator.	Haulage.	Fan or Furnace.	Drift, Slope or Shaft.	Pick or Machine Mine.	Type of Machines.
Camden,	Geo. Lysle & Sons,	Rope and mule,	Furnace,	Drift,	Pick.	
Alice,	W. B. Rodgers,	Rope and mule,	Fan,	Drift,	Machine,	Electric.
Riverville,	Riverville Coal Co.,	Mule,	Furnace,	Drift,	Pick.	
Acme,	Stockdale Coal Co.,	Rope and mule,	Furnace,	Drift,	Pick.	
Allen,	Allen Coal Co.,	Mule,	Furnace,	Drift,	Pick.	
Chamionni,	Tide Coal Co.,	Rope and mule,	Fan,	Slope,	Pick.	
Allequippa,	Bailey, Wilson & Co.,	Rope and mule,	Furnace,	Drift,	Pick.	
Ella,	Ella Coal Co.,	Rope, mule and motor,	Fan,	Drift,	Machine,	Electric.
Beaumont,	Pursglove, Gordon & Co.	Rope and mule,	Fan,	Slope,	Pick.	
Bunola,	Bunola Mining Co.,	Rope and mule,	Fan,	Drift,	Machine,	Electric.
Walton, Upper,	Jos. Walton & Co.,	Rope and mule,	Furnace,	Drift,	Pick.	
Walton, Lower,	Jos. Walton & Co.,	Rope and mule,	Furnace,	Drift,	Pick.	
Charleroi	Charleroi Coal Co.,	Rope, mule and motor,	Fan,	Drift,	Machine,	Electric.
Shoenberger,	Shoenberger Coal Co.,	Mule,	Fan and furnace,	Drift,	Pick.	
Knob,	Knob Coal Co.,	Rope, mule and motor,	Fan,	Slope,	Machine,	Electric.
Washington,	Flint & Co.,	Rope and mule,	Fan,	Drift,	Machine,	Electric.
Milesville,	Robert Jenkins,	Rope and mule,	Fan,	Drift,	Machine,	Electric.
Umpire,	Umpire Coal Co.,	Rope and mule,	Fan,	Drift,	Pick.	
Albany,	Snowden, Gould & Co.,	Rope and mule,	Fan,	Slope,	Machine,	Electric.
Climax,	Smith & Co.,	Rope and mule,	Fan,	Slope,	Pick.	
Little Redstone,	Little Redstone Coal Co.	Rope and mule,	Fan and furnace,	Drift,	Machine,	Electric.
Catsburg,	Catsburg Coal Co.,	Rope, mule and motor,	Fan,	Drift,	Machine,	Electric.
Ivill,	James Jones,	Rope and mule,	Fan,	Drift,	Pick and machine,	Electric.
Gallatin,	Ivill Coal Co.,	Rope and mule,	Fan,	Drift,	Machine,	Electric.
Rostraver,	Rostraver Coal Co.,	Motor and mule,	Furnace,	Drift,	Machine,	Electric.
Anchor,	A. G. & J. E. Leonard,	Rope and mule,	Fan,	Drift,	Machine,	Compressed air.
Tremont,	John A. Wood & Son,	Rope and mule,	Fan,	Drift,	Machine,	Compressed air.
Buffalo,		Rope and mule,	Fan,	Drift,	Pick.	
Abe Hays,		Mule,	Furnace,	Drift,	Pick.	
Cliff,		Rope and mule,	Furnace,	Drift,	Pick.	
Hilldale,	Hilldale Coal Co.,	Rope and mule,	Furnace,	Drift,	Pick.	

Mines on the Monongahela Division of the Pennsylvania Railroad.

Fidelity.—Number of persons employed, inside, 72. Cubic feet of air in circulation at inlet, 19,860. The mine consists of three butts and two face headings. Condition of mine, fair.

Allen.—Mine, as regard ventilation, in fair condition. The drainage, in parts of the mine, required improvement.

Charleroi.—General condition of mine, fair. Cubic feet of air in circulation at outlet, 54,000.

Courtney.—General condition of drainage, satisfactory; ventilation, however, required improvement in parts of the mine.

Blyth.—During part of the year, the ventilation of this mine was very unsatisfactory, owing to the ventilating furnace not being of sufficient power to produce the volume of air required for the number of persons employed. A 16 foot ventilating fan has been erected at the mine, which was, on my last visit, producing 66,000 cubic feet of air per minute at the outlet. Previous to the placing of the fan, the air current was coursed in one continuous route; it is now in two divisions, making the condition of the mine, as regards ventilation, more satisfactory than it has been for some time.

Shoenberger.—In fair condition, when last examined.

Acme.—General condition of drainage, unsatisfactory; ventilation also required improvement, in parts of the mine.

Mines on the Monongahela River.

Equitable.—General condition of mine, satisfactory.

Coal Centre.—In fair condition, as regards ventilation and drainage.

Walton Lower.—Mine not in operation when last visit was made.

Vigilant.—General condition of mine, fair. Cubic feet of air entering the mine, 39,450.

Rock Run.—Mine not in operation when last visited; examined the greater part found it in fair condition. Outlet air measurement, 25,180 cubic feet.

Walton Upper.—General condition of mine, fair.

Abe Hays, Cliff and New Eagle.—These mines were idle during the entire year.

Gallatin.—At each visit to this mine, I found the condition, as regards ventilation, very unsatisfactory. Ground has been broken for the erection of a ventilating fan which will be placed in position as soon as possible; this when finished and the air properly distributed, will, no doubt, remove cause of complaint.

Anchor.—Number of persons employed at time of last visit, 16. Mine not in active operation. Quantity of air entering mine, 30,000 cubic feet. General condition, fair.

Apollo.—Not in operation when last visit was made; examined the workings and found them in fair condition.

Ivill.—On my last examination of this mine, I found the ventilation, in parts, very unsatisfactory; the drainage, however, was in fair condition.

Black Diamond.—In fair condition when last examined.

Mongah.—General condition, on last visit, satisfactory.

Chamouni.—Improvement made at this mine during the year was the erection of a ventilating fan, 20 feet in diameter, which, at the time of my last visit, was giving, in a general way, entire satisfaction. If the interior of the mine is put in proper condition for the distribution of the air current furnished by the fan, there should be no cause for complaint, for some time to come.

Snow Hill.—In fair condition, when last examined.

Alice.—On the date of my last visit, the ventilation, in a general way, was satisfactory, but the drainage required improvement. A 25 foot ventilating fan was erected at the plant during the year.

Camden.—In fair condition as regards ventilation and drainage. The outlet air measurement was, 68,000 cubic feet per minute.

Stony Hill.—In fair condition when last visit was made.

Tremont.—General condition of ventilation, fair; drainage in parts of the mine required improvement.

Buffalo.—No work has been done at this mine during the year.

Little Redstone.—The mine is worked in two parts, known as the "Old" and "New Hill" respectively; the ventilation in the former is produced by a furnace; in the latter by a fan. On my last examination of the workings, I found the general condition, fair.

Banner.—Ventilation, when last visited, was not up to the legal requirements; drainage, fair.

Allequippa.—Not in operation when last visited.

Amity.—In fair condition, when last visited.

Clipper.—In fair condition, as regards ventilation; drainage required improvement.

Rostraver.—Mine not in operation when visited. Persons employed, when in operation, are as follows: 4 machine men, 35 loaders, 10 pick men, 3 drivers and 3 other persons. Examined the mine and found the general condition of the ventilation, satisfactory; drainage required improvement. Outlet air measurement as shown by the instrument was, 20,000 cubic feet.

Crescent.—In fair condition when last examined.

Hilldale.—Not in operation when last visit was made.

Fox & Crowthers.—Each of these mines was in fair condition when I made my last visit, as regards ventilation and drainage. The second means of egress of the Crowthers mine was not in a legal condition, but I am informed by those in charge that it has since been made so.

Bunola.—Mine not in operation when last examined. The general condition of the ventilation was fair; the drainage was, in parts, very unsatisfactory.

Albany.—On my last visit to this mine, it was in fair condition. The mine consists of 14 butts and 2 face headings. A small portion of the workings was ventilated by a mixed air current—the other being in two divisions.

Ella.—General condition of the drainage, satisfactory. Ventilation, in parts of the mine, required improvement. Total number of persons employed inside, on my last visit, 167. Divisions of air, 3.

Eclipse.—General condition of mine, fair. Air measurements taken at inlet, outlet, entries 17, 19, 22, 23, 26 and face. Cubic feet of air at outlet, 56,000 per minute.

Fayette City.—On my last visit, the ventilation and drainage of this mine were not up to the legal requirements. The mine consists of twelve butts and two face headings.

Climax.—Ventilation and drainage required improvement in parts of the mine; part of the second means of egress is somewhat obstructed by water—this I ordered removed and the place to be put in a legal condition. While the drainage of the mine cannot be made perfect, it can be much improved over its present condition. Air measurements taken at inlet, outlet, and entries 17, 20 and 21.

Beaumont.—Mine, as regards ventilation and drainage, was in fair condition, when last examined. The air current at the inlet measured 20,640 cubic feet per minute.

Umpire.—Mine not in operation when last visited; on examining the interior, I found it in fair condition. 19,070 cubic feet of air at inlet. Mine consists of six butts and four face headings.

Champion and Caledonia.—As stated in my last report, the product of both mines passes over the one tipple and they are practically one mine. Total number of persons employed, 129. Cubic feet of air at inlet, 39,227.

Vesta No. 1.—On my last examination of this mine, the ventilation, in parts, was not up to the legal requirements. The excavation covers a large territory; a large volume of the air becomes fugitive before it reaches the working faces, but to remedy this they are driving two places to "daylight," which when finished, will shorten the air route almost one-half, which at the same time will course nearer to the workmen. On one of my visits, a large quantity of fire-damp had accumulated on some falls adjacent to where persons passed to and from their work, and being of the opinion that it was dangerous, I ordered part of the mine to be vacated, until the gas was removed. General condition of drainage, fair.

Vesta No. 2.—This is practically Vesta No. 1, as the coal from Vesta

No. 2 is run over the Vesta No. 1 tipple, and the ventilation for both mines is produced by one ventilating fan.

Vesta No. 3.—After a suspension for a number of years the operators are in a position to resume active operations. A new tipple, with the necessary appliances has been built, and a great amount of work has been done in the interior of the mine for the handling of a large quantity of coal.

Catsburg.—On my last examination of this mine, I found the drainage not up to the legal requirements; general condition of ventilation, fair. Inlet air measurement, as shown by the instrument, 54,000 cubic feet.

Riverville.—When last examined, the ventilation of this mine was very unsatisfactory, as in parts of the mine the air not moving at all, while in others the air current was so low in velocity that the instrument would not register. I notified those in charge of the mine of the illegal condition of the workings, and I have since been informed that the cause of complaint has been remedied.

Coal Bluff.—The ventilation of this mine has been very unsatisfactory for some time; I notified those in charge in regard to the matter, and I have been informed that a ventilating fan will be erected at the plant. The present ventilator is a furnace, which owing to its location and condition of the present workings of the mine, has not sufficient power to move the quantity of air required for the number of persons employed. The drainage, in parts of the mine, also required improvement.

Washington.—General condition of mine, as regards ventilation, fair; drainage, in parts of the mine, required improvement. A new field of coal has been opened up at this plant—the old field being practically abandoned. A line, through which steam was carried to a pump located in the interior of the mine, was giving off steam which permeated the intake air current somewhat. I called the attention of the management to the law governing the use of steam pipes in a mine, and as a consequence, after much delay, the annoyance was somewhat abated.

Christiana.—In fair condition, when last examined.

Cincinnati.—On my last visit, the general condition of the workings was fair. The mine was idle for quite a long time during the year; during the interval a new tipple was erected, which, I am informed, is giving general satisfaction.

Milesville.—Mine not in operation when last examined. General condition, satisfactory. Air measurements were taken at the following places, viz: Inlet, outlet, entries "Cuba," Main, 1, 10 and 12.

Little Alps.—Number of days worked during the year, 247; persons employed, 50. While the general condition of the ventialtion was fair, drainage was very unsatisfactory, in parts of the mine.

Knob.—This mine, as far as relates to ventilation and drainage, was in fair condition when last examined. The second means of egress—which was a ladder placed in the fan shaft—had been a very unsatisfactory condition for some time. I called the attention of the management to the matter, and the result was the erection of an iron stairway with convenient landings. This greatly improved matters as the old ladder was in poor repair—in fact was dangerous. This means of egress is to be used in cases of emergency only, as the slope is the regular traveling way.

Old Eagle.—In operation 95 days during the year; persons employed, 143, classified as follows: 107 miners, 5 laborers, 6 drivers and 25 other persons.

Mines Located on the Pittsburgh and Wheeling Division of the Baltimore and Ohio Railroad.

Anderson, Gastonville and Hackett.—These mines were idle during the entire year.

Snowden.—When last visit was made, the general condition of the ventilation was fair; but the drainage required improvement.

Eclipse.—Number of days worked during the year, 221½; persons employed, 145. When examined, the ventilation was in fair condition, but drainage required improvement.

Nottingham.—At each visit to this mine I had occasion to call the attention of those in charge, to the illegal condition of the ventilation, drainage and passageway which forms the approaches to the second means of egress; part of this passageway ran parallel with the main entry and was obstructed by falls and water to such an extent as to make it practically impossible to travel on without great difficulty. A shaft was located on the right side of the mine which could have been made a means of egress by the use of timber, and the placing of a stairway in it, as it has a depth of only 20 feet. I ordered that the law be complied with at once, in regard to this matter.

Germania.—At this mine there was also cause for complaint, during part of the year, relative to the ventilation, drainage and means of egress. On my last visit there was a marked improvement in the ventilation, which was due to the sinking of a shaft and the building of a furnace. The drainage also received attention. A new opening has been made which has made the condition of the mine much more satisfactory than formerly.

Mines on the Belle Vernon Division of the Pittsburgh and Lake Erie Railroad.

Somers No. 2.—Not in operation when last visited. Examined the the interior of the mine and found it in fair condition.

Manown.—General condition of mine fair. Inlet air measurements as shown by the instrument, 43,000 cubic feet. The air was measured in the following places, viz: Outlet, inlet, entries 2-2, 4-4, 5, 6, 30 and No. 2 face.

Shepplar.—Ventilation, fair; drainage required improvement in parts of the mine. The instruments showed 16,508 cubic feet of air passing in at inlet. Persons employed, 65.

Arnold No. 2.—General condition of mine, as regards ventilation and drainage, fair.

Cleveland.—On my last inspection of this mine, the ventilation and drainage required improvement in parts. On this visit, there were employed inside, 10 machine men, 145 loaders, 12 pick men, 20 drivers, 10 day men and 4 trappers. The inlet air measurement as shown by the instrument was 72,000 cubic feet. The mine consists of 13 butts and 2 face headings.

Arnold No. 1.—General condition of mine, fair. On one of my visits to this mine I found a large quantity of gas on some falls which, according to its location, was extremely dangerous to those employed in that part of the mine. As a safeguard, until the gas could be removed, I ordered the men to vacate their places.

Arnold No. 3.—Ventilation and drainage of this mine is, in a general way, satisfactory. There are some improvements necessary in regard to the shaft arrangements, which I am informed will be complied with immediately.

North Webster.—General condition of ventilation and drainage, fair.

Somers No. 3.—This is a new slope opening, located a short distance east of Somers No. 2; ventilated by a furnace, located at the bottom of a shallow shaft. The mine workings are not very extensive, as yet. Inlet air measurement, as shown by the instrument, was 15,270 cubic feet. General condition of mine, satisfactory.

TABLE I—Showing Names of Operators, etc., etc., and Location of Collieries in the First Bituminous District, 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Cincinnati,	Washington,	M. R. C., C. & C. Co.,	G. W. Thomas,	Lock No. 4.
Fayette City,	Fayette,	M. R. C., C. & C. Co.,	Samuel O'Neil,	Fayette City.
Coal Bluff,	Washington,	M. R. C., C. & C. Co.		
Stony Hill,	Fayette,	M. R. C., C. & C. Co.,	G. W. Thomas,	Lock No. 4.
Fox,	Washington,	M. R. C., C. & C. Co.		
Amity,	Allegheny,	M. R. C., C. & C. Co.,	S. S. Crump,	Dravosburg.
Rock Run,	Allegheny,	M. R. C., C. & C. Co.,	W. H. Crump,	Dravosburg.
Snow Hill,	Fayette,	M. R. C., C. & C. Co.,	J. W. Ailes,	Roscoe.
Champion,	Washington,	M. R. C., C. & C. Co.,	T. J. Wood,	Elco.
Eclipse (river),	Washington,	M. R. C., C. & C. Co.		
Fidelity,	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Blythe,	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Courtney,	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Banner,	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Eclipse (railroad),	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Nottingham,	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Germania,	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Snowden,	Allegheny,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Arnold No. 1 and 3,	Fayette,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Arnold No. 2,	Fayette,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Cleveland,	Fayette,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Somers No. 2,	Westmoreland,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Somers No. 3,	Westmoreland,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Equitable,	Westmoreland,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
North Webster,	Westmoreland,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Manown,	Allegheny,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Hackett,	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Anderson,	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Gastonville,	Washington,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Sheppler,	Westmoreland,	Pittsburgh Coal Co.,	G. W. Schluederberg,	Pittsburgh.
Old Eagle,	Allegheny,	W. H. Brown's Sons,	James Louttit,	Monongahela.
Monzah,	Allegheny,	W. H. Brown's Sons,	James Louttit,	Monongahela.
Black Diamond,	Washington,	W. H. Brown's Sons,	James Louttit,	Monongahela.
Vesta No. 1 and 2,	Washington,	Vesta Coal Co.,	R. B. Drum,	California.
Vesta No. 3,	Washington,	Vesta Coal Co.,	R. B. Drum,	California.
Vigilant,	Washington,	California Coal Co.,	John W. Ailes,	Roscoe.
Crescent,	Washington,	California Coal Co.,	John W. Ailes,	Roscoe.
Clipper,	Washington,	C. Jutte & Co.,	G. W. Thomas,	Lock No. 4.
Christinia,	Allegheny,	C. Jutte & Co.		
Apollo,	Fayette,	C. Jutte & Co.,	G. W. Thomas.	
Coal Centre,	Washington,	P. J. Forsythe,	P. J. Forsythe,	Coal Centre.
Little Alps,	Fayette,	James Black		
Bunola,	Allegheny,	Bunola Mining Co.,	J. M. Crawford,	Bunola.
Walton, Upper,	Allegheny,	Jos. Walton Co.,	I. N. Bunton,	Pittsburgh.
Walton, Lower,	Allegheny,	Jos. Walton Co.,	I. N. Bunton,	Pittsburgh.
Charleroi,	Washington,	Charleroi Coal Works		

TABLE I—Continued.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Shoenberger	Washington	Shoenberger Coal Co.	James B. Smail	Monongahela.
Knob	Washington	Knob Coal Co.	S. H. Pearsoll	West Brownsville.
Washington	Fayette	Flint & Co.		
Milesville	Allegheny	Robt. Jenkins	Robt. Jenkins, Jr.	Sunny Side.
Umpire	Fayette	Umpire Coal Co.	John D. Simpson	Brownsville.
Albany	Fayette	Snowden-Gould Co.	C. L. Snowden	Brownsville.
Climax	Fayette	Smith & Co.	Alex. Nimino	McKeesport.
Crowthers	Fayette	Crowthers & Co.		
Camden	Allegheny	Geo. Lysle & Sons	Geo. Lysle, Jr.	Camden.
Alice	Fayette	W. B. Rodgers	W. B. Rodgers	California.
Riverville	Washington	Riverville Coal Co.	G. V. Hamlonzky	Fredericktown.
Acme	Washington	Stockdale Coal Co.		
Allen	Washington	Allen Coal Co.		
Chamouni	Fayette	Tide Coal Co.	Wm. B. Rodgers	California.
Allequippa	Allegheny	Bailey, Wilson & Co.		
Ella	Westmoreland	Ella Coal Co.	G. A. Magoon	Sunny Side.
Beaumont	Washington	Pursglove Gordon Co.		
Little Redstone	Fayette	Little Redstone Coal Co.	S. R. Wilson	Pittsburgh.
Catsburg	Washington	Catsburg Coal Co.	John H. Jones	Monongahela.
Ivill	Washington	James Jones	Harry P. Jones	Monongahela.
Gallatin	Allegheny	Ivill Coal Co.	Harry P. Jones	Monongahela.
Rostraver	Westmoreland	Rostraver Coal Co.	Harry P. Jones	Monongahela.
Anchor	Fayette	A. G. & J. E. Leonard.		
Tremont	Fayette	John A. Wood & Son.		
Abe Hays	Washington			
Buffalo	Washington			
Cliff	Washington			
Hilldale	Washington	Hilldale Coal Co.		

TABLE I—Continued.

Name of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Cincinnati,	John McMenemy,	Courtney,		L. R. Jenkins.	
Fayette City,	James O.Niel,	Fayette City,		John Daily.	
Coal Bluff,	Geo. Peterson,	Coal Bluff,	C. A. Frye,	Jos. Parton.	
Stony Hill,	Chas. Bradford,	Coal Centre,	David Boudlen,	Geo. Gaskill,	Chas. Bradford.
Fox,	Geo. W. Dales,	West Brownsville,		William Pursglove.	
Amity,				James Henderson.	
Rock Run,	Thos. Watkins,	Camden,		John Forsythe.	
Snow Hill,	Jos. Underwood,	Roscoe,	J. H. Underwood,	John McVicker,	Jos. Underwood.
Champion,	G. W. Roberts, Jr.,	Elco,		Thos. Gainor,	G. W. Roberts, Jr.
Eclipse (river),	Wm. Minford,	Elco,		Wm. Minford.	
Fidelity,	Lute Hornickle,	Monongahela,		Chas. McVicker,	Jos. Arkwright.
Blythe,	Lute Hornickle,	Monongahela,		T. C. Cowell,	D. L. Mallow.
Courtney,	Lute Hornickle,	Monongahela,		T. A. Watson,	T. McWilliams.
Banner,	Lute Hornickle,	Monongahela,		A. V. Borland,	J. B. Neel.
Eclipse (railroad),	W. B. McCoy,	Finleyville,		Richard Jones.	
Nottingham,	W. B. McCoy,	Finleyville,		Robt. Howey.	
Germania,	W. B. McCoy,	Finleyville,		T. H. Thompson.	
Snowden,	W. B. McCoy,	Finleyville,		James Porter.	
Arnold No. 1 and 3,	J. H. Moorefield,	Fayette City,		A. H. Yates,	W. P. Jones.
Arnold No. 2,	J. H. Moorefield,	Fayette City,		Samuel Smith.	
Cleveland,	J. H. Moorefield,	Fayette City,		J. W. Hindmarsh,	J. O. Somers.
Somers No. 2,	J. H. Moorefield,	Fayette City,		Jas. Bailey,	J. O. Somers.
Somers No. 3,	J. H. Moorefield,	Fayette City,		Geo. W. Kistler,	J. O. Somers.
Equitable,	J. H. Moorefield,	Fayette City,		John Johnson.	
North Webster,	J. H. Moorefield,	Fayette City,		John Burt.	
Manown,	J. H. Moorefield,	Fayette City,		Wm. Gibson.	
Hackett,	W. B. McCoy,	Finleyville.			
Anderson,	W. B. McCoy,	Finleyville.			
Gastonville,	W. B. McCoy,	Finleyville			
Sheppdar,	J. H. Moorfield,	Fayette City,		John Giles.	
Old Eagle,				James Furrir.	
Mongah,				Peter Doney,	Thos. Waddington
Black Diamond,				John P. Coulter,	H. Welsh.
Vesta No. 1 and 2,				Elijah Dainty.	
Vesta No. 3,				Edwin Boyle.	
Vigilant,	John A. Powell,	California,		Arthur Neale.	
Crescent,	T. J. Underwood,	California,		John Porter.	
Clipper,				Wm. West.	
Christinia,	Geo. N. Kramer,	Elizabeth		Benj. Jones.	
Apollo,	Robt. J. Gregg,	Fayette City,		Nicholas Cole.	
Coal Centre,				Andrew Frazer.	
Little Alps,	James Black,	Stockdale,		Hugh Cairns.	
Bunola,	G. T. Cook,	Bunola,		Wm. Penn.	
Walton, Upper,	D. W. Phillips,	Floreffee		Wm. G. Murray.	
Walton, Lower,	D. W. Phillips,	Floreffee			
Charleroi,	J. K. Johnson,	Charleroi,		Andrew Jenkins.	

TABLE I—Continued.

Name of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Shoenberger,				Thos. Hall,	Jas. Nelson.
Knob,				A. Ferguson,	C. W. Leonard.
Washington,	Lloyd Flint,	Pittsburgh,		John Fortner,	Robt. Ingland.
Milesville,				Chas. Jenkins,	G. K. Gillingham.
Umpire,				Aquilla Underwood.	
Albany,	Wm. Seddon,	Brownsville,		Wm. Gillie,	M. C. Duvale.
Climax,	M. R. Smith,	McKeesport,		Jos. Cartwright.	
Crowthers,	L. M. Crowthers,	Fredericktown,		Peter McKenna.	
Camden,	B. M. Thomas,	Camden,		H. G. Heath,	B. M. Thomas.
Alice,	W. S. Gibson,	California,		W. S. Gibson,	W. S. Gibson.
Riverville,	E. M. Raycraft,	Fredericktown,		Foster G. Watson.	
Acme,	C. W. Braznell,	Stockdale,		John Arkwright.	
Allen,	C. W. Braznell,	Stockdale,		Wm. Crockett.	
Chauncuni,			Thos. J. Crombie,	P. Shaughnessy,	Lem. McCain.
Albequippa,	W. W. Wilson,	Camden,		Wm. Ambler,	Wm. Cunningham.
Ella,	A. E. Speakman,	Sunny Side,		T. H. Ransick,	A. E. Speakman.
Beaumont,	Samuel Pursglove,	West Brownsville,	Samuel Pursglove, Jr.,	Peter Gordon.	
Little Redstone,	J. T. Jones,	Stockdale,		Frederick Kreger.	
Catsburg,	Harry P. Jones,	Monongahela,		James Newman,	J. R. Smith.
Ivill,	Harry P. Jones,	Monongahela,		Jos. Gartley,	Chas. E. Sandberg.
Gallatin,	Harry P. Jones,	Monongahela,		Wm. Mollison,	Robt. W. Rouse.
Rostraver,	Harry P. Jones,	Monongahela,		John Watson,	Samuel Ivill.
Anchor,	J. E. Leonard,	Roscoe,		John Fallow.	
Tremont,	A. G. Leonard,	Brownsville,		Wm. Watkins.	
Abe Hays.					
Buffalo.					
Cliff.					
Hilldale,				Geo. Hays.	

TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the First Bituminous District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
The Monongahela River Consolidated Coal and Coke Company.												
Cincinnati,	Washington,	55,850	2,223	.....	58,073	128.50	198	.....	3	1,038	20	12
Fayette City,	Fayette,	313,442	1,759	1,031	316,232	253.75	142	.....	6	.....	.....	14
Coal Bluff,	Washington,	115,535	225	600	116,360	269	156	.....	1	1,500	.....	8
Stony Hill,	Fayette,	61,990	141	50	62,181	231	68	.....	.....	.....	.....	5
Fox,	Washington,	28,095	.....	19	28,114	166	56	.....	.....	145	.....	3
Amity,	Allegheny,	134,655	.....	9,600	144,255	199	222	.....	3	65	.....	22
Rock Run,	Allegheny,	53,789	.....	604	54,393	135	155	.....	.....	.....	.....	12
Snow Hill,	Fayette,	123,917	441	.....	124,358	234	134	.....	.....	500	.....	7
Champion,	Washington,	126,350	200	50	126,700	153.25	180	.....	.....	3,000	.....	16
Eclipse (river),	Washington,	228,572	1,120	125	229,817	280	126	4	1	.....	.....	15
Total,		1,242,295	6,109	12,079	1,260,483	199.50	1,437	4	14	6,248	20	114
Pittsburgh Coal Co.												
Fidelity,	Washington,	*112,121	.....	1,000	113,121	229.63	116	1	1	.....	.....	10
Blythe,	Washington,	*299,650	150	200	300,000	244.25	200	1	2	.....	.....	12
Courtney,	Washington,	*49,100	300	600	50,000	151.75	79	.....	1	.....	.....	8
Banner,	Washington,	*39,800	200	.....	40,000	202	121	2	.....	.....	.....	8
Eclipse (railroad),	Washington,	127,405	2,257	52	129,714	221.50	145	1	5	.....	3,500	18
Nottingham,	Washington,	31,293	457	.....	31,750	129	76	.....	1	.....	.....	10
Germania,	Washington,	54,873	90	.....	54,963	166	122	3	.....	.....	.....	10
Snowden,	Allegheny,	165,772	888	562	167,222	298.63	197	1	5	.....	.....	17
Arnold Nos. 1 and 3,	Fayette,	438,124	2,280	2,400	442,804	269	343	1	3	.....	.....	23
Arnold No. 2,	Fayette,	.....	.....	.....	.....	.....	67	.....	.....	.....	.....	3
Cleveland,	Fayette,	287,880	3,400	.....	291,280	263	283	3	4	.....	.....	25

*Estimated.

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes' tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Somers No. 2,	Westmoreland,	233,019	2,319	3,137	238,657	253	217	1	5	.....	.....	17
Somers No. 3,	Westmoreland,	33,489	.....	.....	33,489	153	58	.....	.....	.....	.....	4
Equitable,	Westmoreland,	87,994	1,050	1,850	90,894	191	106	.....	.....	.....	.....	7
North Webster,	Westmoreland,	60,406	1,500	325	62,225	161	105	.....	4	.....	.....	7
Matthews,	Allegheny,	114,870	2,872	265	117,937	210	151	.....	.....	.....	.....	9
Hackett,†	Washington,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Anderson,†	Washington,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gastonville,†	Washington,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Sheppler,	Westmoreland,	*119,480	500	20	120,000	.....	.....	.....	.....	.....	.....	.....
Total,	.....	2,254,191	18,434	11,411	2,284,036	268	2,386	14	31	.....	3,500	189
W. H. Brown's Sons.												
Old Eagle,	Allegheny,	31,567	575	218	32,360	95	143	.....	.....	250	.....	14
Mengah,	Allegheny,	88,644	906	9,330	98,567	234	131	.....	3	325	.....	11
Black Diamond,	Washington,	82,529	359	200	83,088	127	217	.....	3	300	.....	16
Total,	.....	202,140	1,927	9,748	213,815	152	491	.....	6	875	.....	41
Vesta Coal Co.												
Vesta Nos. 1 and 2,	Washington,	495,625	13,941	2,057	511,623	254	325	2	2	2,400	.....	30
Vesta No. 3,	Washington,	1,850	.....	.....	1,850	40	45	.....	.....	.....	.....	5
Total,	.....	496,875	13,941	2,057	512,873	132	370	2	2	2,400	.....	35
California Coal Co.												
Vigilant,	Washington,	161,357	800	2,520	164,677	275.75	144	.....	1	2,000	.....	10
Crescent,	Washington,	161,602	600	.....	161,602	242.50	91	1	6	2,000	.....	12
Total,	.....	322,959	1,400	2,520	326,279	234	235	1	7	4,000	.....	22

C. Jutte & Co.												
Clipper,	Washington,	66,122	.....	73	66,195	251	100	1	1	225	.....	7
Christinia,	Allegheny,	21,779	225	180	22,184	98	129	.....	1	25	.....	8
Apollo,	Fayette,	281,840	1,568	.....	283,208	234.75	291	.....	4	2,000	.....	16
Total	.....	369,741	1,593	253	371,587	194	520	1	6	2,250	.....	31
P. J. Forsythe.												
Coal Centre,	Washington,	175,176	450	150	175,776	208.50	177	1	1	946	.....	14
James Black.												
Little Alps,	Fayette,	3,648	20	.....	3,668	247	58	.....	.....	280	25	5
Crowthers & Co.												
Crowthers,	Fayette,	41,265	.....	.....	41,265	230	81	.....	.....	.....	.....	6
Geo. Lysle & Sons.												
Camden,	Allegheny,	94,050	500	1,200	95,750	140	215	2	.....	.....	.....	18
W. B. Rodgers.												
Alice,	Fayette,	151,088	1,920	360	153,368	290	118	1	.....	1,325	.....	13
Riverville Coal Co.												
Riverville,	Washington,	65,854	240	781	66,875	239	100	.....	.....	240	.....	4
Stockdale Coal Co.												
Acme,	Washington,	243,513	800	700	245,013	219	260	3	2	1,400	.....	11
Allen Coal Co.												
Allen,	Washington,	52,047	250	1,000	53,297	232	39	.....	3	200	.....	3
Tide Coal Co.												
Chauncuni,	Fayette,	296,421	500	3,300	300,221	299	372	.....	.....	1,825	.....	18
Bailey, Wilson & Co.												
Allequi, pa.	Allegheny,	90,563	210	608	91,181	126	176	.....	1	.....	.....	12
Ella Coal Co.												
Ella,	Westmoreland,	123,115	784	132	124,031	291	194	.....	8	.....	.....	12
Pursglove, Gorden & Co.												
Beaumont,	Washington,	26,600	500	200	27,300	233	144	.....	2	600	.....	8
Bunola Mining Co.												
Bunola,	Allegheny,	191,031	2,112	540	193,683	286	134	.....	1	.....	.....	14
Jas. Walton & Co.												
Walton, Upper,	Allegheny,	110,660	418	1,080	112,158	130	275	.....	2	3 0	700	22
Walton, Lower,	Allegheny,											
Charleroi Coal Co.												
Charleroi,	Washington,	204,024	3,200	124	207,358	281	166	1	4	960	100	12

†Idle all year.

TABLE II —Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Shoenberger Coal Co. Shoenberger,	Washington,	124,675	240	200	124,515	282	154	1	3	800	100	9
Knob Coal Co. Knob,	Washington,	119,930	1,840	420	122,190	191	168	2	2	950	35	11
Flint & Co. Washington,	Fayette,	86,474	1,440	.....	87,914	270	75	1	.....	950	.....	7
Robt Jenkins. Milesville,	Allegheny,	62,367	520	100	62,987	240	120	.....	1	500	.....	12
Umpire Coal Co. Umpire,	Fayette,	34,821	600	.....	35,421	108.50	149	.....	3	180	.....	10
Snowden-Gould Co Albany,	Fayette,	187,800	800	200	188,800	198.75	145	1	4	950	.....	12
Smith & Co. Climax,	Fayette,	23,997	750	150	24,897	209.25	70	.....	.....	.....	.....	5
Little Redstone Coal Co. Little Redstone,	Fayette,	224,174	1,691	661	226,526	243.75	169	.....	1	.....	150	17
Catsburg Coal Co. Catsburg,	Washington,	470,400	1,500	4,000	475,900	294	255	2	3	1,000	.....	10
James Jones. Ivill,	Washington,	302,427	1,400	1,000	304,827	258	185	1	1	500	.....	8
Ivill Coal Co. Gallatin,	Allegheny,	310,570	2,000	2,500	315,070	295	190	1	1	700	.....	9

Rostraver Coal Co.												
Rostraver,	Westmoreland,	119,782	1,200	600	121,582	267	130		3	500		6
A. G. & J. E. Leonard.												
Anchor,	Fayette,	*124,300	700		125,000		104	2	1			
John A. Wood & Son.												
Tremont,	Fayette,	*186,500	7,000	1,500	195,000		99	3	1			
Buffalo,†	Washington,											
Abe Hays †	Washington,											
Cliff,†	Washington,											
Hilldale Coal Co.												
Hilldale,	Washington,	*24,750	200	50	25,000		76					

*Estimated. †Idle all year.

Recapitulation of Production, Etc.

Name of Colliery.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes, tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
M. R. C., C. & C. Co.,	1,242,295	6,169	12,079	1,260,483	1,395.70	1,437	4	14	6,248	20	114
Pittsburgh Coal Co.,	2,251,191	18,434	11,411	2,284,036	3,112.75	2,486	14	31	.....	3,500	189
W. H. Brown's Sons,	102,440	1,927	9,748	213,815	456	491	.....	6	875	.....	41
Vesta Coal Co.,	296,875	13,941	2,057	312,873	264	370	2	12	2,400	.....	35
California Coal Co.,	322,579	1,400	2,520	326,279	478.25	235	1	4	4,000	.....	32
C. Jutte & Co.,	369,741	1,583	253	371,587	583.75	320	1	6	2,250	.....	21
P. J. Forsyth,	175,176	150	150	175,776	208.50	157	1	1	946	.....	14
James Black,	3,668	20	.....	3,668	247	58	.....	.....	280	25	5
Crowthers & Co.,	41,265	.....	.....	41,265	230	84	.....	.....	.....	.....	6
Geo. Lysle & Sons,	94,450	760	1,200	95,550	140	215	.....	.....	.....	.....	18
W. B. Rodgers,	151,088	1,920	360	153,368	240	118	1	.....	1,325	.....	13
Riverville Coal Co.,	65,874	240	781	66,875	239	100	.....	.....	240	.....	4
Stockdale Coal Co.,	243,513	840	760	245,013	219	260	3	12	1,400	.....	11
Allen Coal Co.,	52,047	250	1,000	53,297	232	39	.....	.....	200	.....	3
Tide Coal Co.,	256,421	540	3,300	260,221	240	372	.....	.....	1,825	.....	18
Bailey, Wilson & Co.,	90,263	240	608	91,181	126	176	.....	1	.....	.....	12
Ella Coal Co.,	123,115	784	132	124,031	231	194	.....	8	.....	.....	12
Pursglove, Gordon & Co.,	26,600	500	200	27,300	233	144	.....	2	600	.....	6
Bunola Mining Co.,	191,631	2,112	540	193,683	286	134	.....	1	.....	.....	14
Jos. Walton & Co.,	110,660	418	1,080	112,178	170	275	.....	2	200	500	12
Charleroi Coal Co.,	204,034	3,200	124	207,358	281	166	1	1	960	100	12
Shoenberger Coal Co.,	124,075	240	200	124,515	242	154	1	3	800	100	9
Knob Coal Co.,	119,920	1,840	420	122,180	191	168	2	2	950	35	11
Flint & Co.,	86,171	1,140	.....	87,311	270	75	.....	1	950	.....	7
Robert Jenkins,	62,387	500	100	62,987	240	120	.....	1	500	.....	12
Umpire Coal Co.,	34,821	600	.....	35,421	108.50	149	.....	3	180	.....	10
Snowden, Gould & Co.,	187,800	800	200	188,800	198.75	145	1	1	950	.....	12
Smith & Co.,	23,997	750	150	24,897	209.25	50	.....	.....	.....	.....	5
Little Redstone Coal Co.,	224,474	1,491	661	226,726	243.75	162	.....	1	.....	150	17
Catsburg Coal Co.,	470,400	1,500	4,000	475,900	294	255	2	3	1,000	.....	10
James Jones,	302,427	1,400	1,000	304,827	278	185	1	1	500	.....	8
Ivell Coal Co.,	340,570	2,000	2,500	345,070	305	196	1	1	700	.....	9

Rostraver Coal Co.,	119,782	1,200	600	121,582	267	130	.....	3	500	6
A. G. & J. E. Leonard,	121,500	700	.....	125,000	.....	104	2	1	.....	.....
John A. Wood & Son,	186,500	7,000	1,500	195,000	.....	99	3	1	.....	.....
Hilldale Coal Co.,	24,750	200	50	25,000	.....	76	.....	.....	.....	.....
Grand total,	9,158,833	77,189	59,624	9,295,646	‡227	9,889	44	114	20,879	4,430
										720

‡Average.

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
The Monongahela River Consolidated Coal and Coke Company.																
Cincinnati,	Washington,	2	300			300				2	172					
Fayette City,	Fayette,	3	235			235				3	300	2	780	500		1
Coal Bluff,	Washington,	2	75			75										
Stony Hill,	Fayette,				60	60										
Fox,	Washington,															
Amity,	Allegheny,															
Rock Run,	Allegheny,															
Snow Hill,	Fayette,	1	50	2	100	150				8	150	1	200	100		
Champion,	Washington,	1								1	60					
Eclipse (river),	Washington,	6	480			480				3	400				1	
Total,		17	1,140	2	160	1,300				17	1,082	3	980	600	1	1
Fidelity,	Washington,															
Blythe,	Washington,	1	50			50				2	170					
Courtney,	Washington,			2	90	90				2	140				1	
Banner,	Washington,	2		2		190				2	260				1	
Eclipse (railroad),	Washington,			3	225	225				4	225	1	275	150	1	
Nottingham,	Washington,			1	50	50						2	360	360		
Germania,	Washington,															
Snowden,	Allegheny,	2	130	2	30	160				3	138					
Arnold Nos. 1 and 2,	Fayette,			4						3		2			2	
Arnold No. 2,	Fayette,			2						2		2				1
Cleveland,	Fayette,			3						5		3				
Somers No. 2,	Westmoreland,									2		1			2	
Somers No. 3,	Westmoreland,			2												
Equitable,	Westmoreland,			3						3		2			1	
North Webster,	Westmoreland,			6						2		1			1	2
Manown,	Allegheny,									2		1				
Hackett,	Washington,															

Anderson,	Washington,															
Gastonville,	Washington,															
Sheppler,	Westmoreland,															
Total,		5	180	32	395	765			1	32	933	15	635	510	11	3
W. H. Brown's Sons.																
Old Eagle,	Allegheny,			6	300	390		2		2	171	3	21	63		2
Mongah,	Allegheny,			3	300	300				3	220	1	30	30	1	1
Black Diamond,	Washington,			1	75	75				1						
Total,				10	675	675		2		6	391	4	51	93	1	3
Vesta Coal Co.																
Vesta Nos. 1 and 2,	Washington,	2	150	4	200	1,100				2						2
Vesta No. 3,	Washington,	1	100	1	60	160				2						
Total,		3	250	5	260	1,260				4						2
California Coal Co.																
Vigilant,	Washington,			1	200	200			1	4		2	190	75	1	
Crescent,	Washington,			1		160				3	230	1	60	60		
Total,				5	200	200			1	7	230	3	250	135	1	
C. Jutte & Co.																
Clipper,	Washington,											1	5	5		
Christinia,	Allegheny,	2		1						3	175					
Apollo,	Fayette,			2						3						
Total,		2		3						6	175	1	5	5		
P. J. Forsythe.																
Coal Centre,	Washington,	2	60			60						1				
James Black.																
Little Alps,	Fayette,			1	40	40						1	32	45		
Crowthers & Co.																
Crowthers,	Fayette,															
Geo. Lysle & Sons.																
Camden,	Allegheny,			3	25	75				2	60					
W. B. Rodgers.																
Alice,	Fayette,	2 2	125 170			550				5	625	4	100	80	1	
Riverville Coal Co.																
Riverville,	Washington,															
Steckdale Coal Co.																
Acme,	Washington,			1	80	80				2	60					

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute, gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.							
Allen Coal Co.																
Allen,	Washington,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Tide Coal Co.																
Chamouni,	Fayette,	.....	.....	2	.....	275	.....	.....	.....	.....	.....	1	215	144	.....	.....
Bailey, Wilson & Co.																
Allequippa,	Allegheny,	1	45	1	20	65	.....	.....	.....	2	100	.....	.....	.....	.....	.....
Ella Coal Co.																
Ella,	Westmoreland,	.....	.....	2	.....	178	.....	.....	1	5	16	2	.....	.....	2	.....
Fursglove, Gordon & Co.																
Beaumont,	Washington,	.....	.....	2	.....	24	.....	.....	.....	2	.....	1	300	150	.....	.....
Bunola Mining Co.																
Bunola,	Allegheny,	3	120	.....	.....	120	1	.....	1	1	150	1	3,600	.....	1	.....
Jos. Walton & Co.																
Walton, Upper,	Allegheny,	1	30	3	99	129	2	.....	.....	5	190	1	332	332	.....	.....
Walton, Lower,	Allegheny,															
Charleroi Coal Co.																
Charleroi,	Washington,	.....	.....	4	150	600	.....	.....	1	4	400	2	280	110	1	.....
Shoenberger Coal Co.																
Shoenberger,	Washington,	.....	.....	1	30	30	.....	.....	.....	1	30	.....	.....	.....	.....	.....
Knob Coal Co.																
Knob,	Washington,	.....	.....	5	.....	500	.....	.....	1	5	325	1	85	85	1	.....

Flint & Co. Washington,	Fayette,			5		265				4		1			1	
Robt. Jenkins. Milesville,	Allegheny,			2						3		1			1	
Umpire Coal Co. Umpire,	Fayette,			2						1		1				
Snowden-Gould Co. Albany,	Fayette,	2	80	2	300	380			1	7	278	1	120	80	1	
Smith & Co. Climax,	Fayette,	2	100			100				2	40	2	300	300		
Little Redstone Coal Co. Little Redstone,	Fayette,	1	60	5	295	355				6	395	2	320	184	2	
Catsburg Coal Co. Catsburg,	Washington,			7		420			2	3	345	2	700	700	1	
James Jones. Ivill,	Washington,			2	90	180			1	2	225	1	200	200		
Ivill Coal Co. Gallatin,	Allegheny,			3		210				2	225				1	
Rostraver Coal Co. Rostraver,	Westmoreland,			2	90	180			1	1	90				1	
A. G. & J. E. Leonard. Anchor,	Fayette,															
John A. Wood & Son. Tremont,	Fayette,															
Buffalo,†	Washington,															
Abe Hays,†	Washington,															
Cliff,†	Washington,															
Hilldale Coal Co. Hilldale,	Washington,															

†Idle all year.

Recapitulation.

Name of Colliery.	Number of Boilers.					Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
	Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.	Steam.	Air.	Electric.							
M. R. C., C. & Co.,	17	1,140	2	160	1,300				17	1,082	3	980	600	1	1
Pittsburgh Coal Co.,	5	180	32	385	765			1	32	933	15	635	510	11	3
W. H. Brown Sons,			10	675	675		2		6	391	4	51	93	1	3
Vesta Coal Co.,	3	250	5	260	1,260				4						2
California Coal Co.,			3	300	300			1	7	230	3	250	135	1	
C. Jutte & Co.,	2		3						6	175	1	5	5		
P. J. Forsyth,	2	60			60						1				
James Black,			1	40	40						1	52	45		
Crowthers & Co.,															
Geo. Lysle & Sons,			3	25	75				2		2	60			
W. P. Rodgers,	4				550				5	625	4	100	80	1	
Riverside Coal Co.,															
Stockdale Coal Co.,			1	80	80				2	60					
Allen Coal Co.,															
Tide Coal Co.,			2		275						1	215	144		
Bailey, Wilson & Co.,	1	45	1	20	65				2	100					
Ella Coal Co.,			2		178			1	3	16	2			2	
Pursglove, Gordon & Co.,			2		24				2		1	366	150		
Bumola Mining Co.,	3	120			120		1		1	130	1	3,600		1	
Jos. Walton & Co.,	1	30	3	99	129	2			5	190	1	332	332		
Charleroi Coal Co.,			4	150	660			1	4	400	2	280	110	1	
Shoenberger Coal Co.,			1	30	30				1	30					
Kuch Coal Co.,			5		500			1	5	325	1	85	85	1	
Flint & Co.,			3		265				4		1			1	
Robert Jenkins,			2						3		1			1	
Umpire Coal Co.,			2						1		1				
Snowden, Gould & Co.,		80	2	300	380			1	7	278	1	120	80	1	
Smith & Co.,	2	100			100				2	40	2	300	300		
Little Redstone Coal Co.,		60	1	295	355				6	395	2	320	184	2	
Catsburg Coal Co.,			2		420			2	3	345	2	760	760	1	
James Jones,			2	90	180				2	225	1	260	260		

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TABLE III—Showing the number of each class of employes at each colliery in the First Bituminous District, during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Monongahela River Consolidated Coal and Coke Company.																
Cincinnati,	1	2	164	2	11	2	.....	182	1	2	3	1	.....	9	16	198
Fayette City,	1	1	76	3	9	[illegible]	26	118	.....	[illegible]	[illegible]	.....	2	15	24	142
Coal Bluff,	1	1	125	.....	8	2	5	142	1	3	2	.....	1	7	14	156
Stony Hill,	1	.....	50	1	5	1	.....	58	1	1	1	.....	3	4	10	68
Fox,	1	.....	45	1	2	1	.....	50	.....	1	.....	.....	1	4	6	56
Amity,	1	.....	173	.....	18	1	5	200	.....	1	.....	.....	1	20	22	222
Rock Run,	1	.....	125	.....	8	2	3	139	.....	1	.....	.....	1	14	16	155
Snow Hill,	1	1	105	1	7	1	1	117	1	1	1	.....	5	9	17	134
Champion,	1	1	140	.....	12	4	4	162	.....	1	2	.....	4	11	18	180
Eclipse (river),	1	1	80	4	10	5	9	110	.....	3	3	.....	1	9	16	126
Total,	10	7	1,085	12	90	21	53	1,278	4	16	17	1	19	102	159	1,437
Pittsburgh Coal Co.																
Fidelity,	1	.....	100	.....	7	1	.....	109	1	1	.....	.....	1	4	7	116
Elvet,	1	.....	169	.....	11	3	3	187	1	2	2	.....	1	7	13	200
Courtney,	1	1	60	.....	5	.....	.....	67	1	1	3	.....	.....	7	12	79
Banner,	1	1	82	.....	16	1	4	105	1	2	4	.....	1	8	16	121
Eclipse (railroad),	1	1	103	.....	13	2	8	128	1	3	4	.....	1	8	17	145
Nottingham,	1	.....	60	.....	5	1	2	69	.....	1	1	.....	1	4	7	76
Germania,	1	.....	100	.....	8	1	2	112	.....	1	.....	.....	1	8	10	122
Snowden,	1	.....	161	.....	13	3	3	181	1	2	2	.....	1	10	16	197
Arnold Nos. 1 and 5,	1	2	250	.....	14	22	21	310	1	2	3	.....	5	22	33	343
Arnold No. 2,	1	1	50	.....	3	1	5	61	.....	1	3	.....	.....	2	6	67
Cleveland,	1	1	190	.....	20	7	37	256	1	5	4	.....	3	14	27	283
Somers No. 2,	2	2	140	.....	12	5	31	192	1	3	2	.....	1	18	25	217

Somers No. 3,	1	.....	41	.....	4	2	6	54	.....	.....	.....	.....	.....	4	4	58
Equitable,	1	1	75	.....	7	2	2	88	1	3	3	.....	1	10	18	106
North Webster,	1	2	70	.....	8	2	5	88	.....	2	3	.....	1	11	17	105
Manown,	1	2	99	.....	17	10	3	132	.....	2	3	.....	2	12	19	151
Hackett,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Anderson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gastonville,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shepplar,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	17	14	1,750	.....	163	63	132	2,139	10	31	37	.....	20	149	247	2,386
W. H. Brown's Sons.																
Old Eagle,	1	1	107	5	6	3	.....	123	.....	3	3	.....	3	11	20	143
Mongah,	1	1	102	3	8	2	.....	117	1	2	2	.....	1	8	14	131
Black Diamond,	1	2	175	3	10	3	.....	194	1	3	3	.....	3	13	23	217
Total,	3	4	384	11	24	8	.....	434	2	8	8	.....	7	32	57	491
Vesta Coal Co.																
Vesta Nos. 1 and 2,	1	2	200	68	25	4	.....	300	.....	3	8	.....	3	11	25	325
Vesta No. 3,	1	1	30	.....	5	.....	.....	37	.....	1	3	.....	1	3	8	45
Total,	2	3	230	68	30	4	.....	337	.....	4	11	.....	4	14	33	370
California Coal Co.																
Vigilant,	1	1	100	4	7	1	11	125	.....	2	5	.....	2	10	19	144
Crescent,	1	1	60	1	8	2	5	78	.....	2	1	.....	.....	10	13	91
Total,	2	2	160	5	15	3	16	203	.....	4	6	.....	2	20	32	235
C. Jutte & Co.																
Clipper,	1	1	77	.....	8	.....	2	89	.....	2	.....	.....	2	7	11	100
Christinia,	1	.....	100	2	7	2	3	115	.....	2	2	.....	1	9	14	129
Apollo,	1	2	230	8	18	5	5	269	.....	3	2	.....	1	16	22	291
Total,	3	3	407	10	33	7	10	473	.....	7	4	.....	4	32	47	520
P. J. Forsythe.																
Coal Centre,	1	1	140	2	12	2	.....	158	.....	2	3	.....	2	12	19	177
James Black.																
Little Alps,	1	.....	50	.....	3	.....	2	56	.....	1	.....	.....	1	.....	2	58
Crowthers & Co.																
Crowthers,	1	.....	75	.....	3	.....	1	80	.....	1	.....	.....	.....	3	4	84
Geo. Lysle & Sons.																
Camden,	1	1	175	.....	15	3	4	199	1	1	1	.....	1	12	16	215
W. B. Rodgers.																
Alice,	1	1	85	5	8	1	.....	101	1	3	3	.....	2	8	17	118
Riverville Coal Co.																
Riverville,	1	.....	80	3	4	1	1	90	.....	2	.....	.....	3	5	10	100

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Stockdale Coal Co.																
Acme,	1	.....	170	.....	9	1	3	184	.....	2	1	.....	2	11	16	200
Allen Coal Co.																
Allen,	1	.....	30	.....	2	.....	1	34	.....	1	.....	.....	1	3	5	39
Tide Coal Co.																
Chamount,	1	1	220	6	15	6	.....	249	1	4	2	.....	1	15	23	272
Bailey, Wilson & Co.																
Allequippa,	1	.....	134	3	11	3	1	153	1	1	2	.....	1	18	23	176
Ella Coal Co.,																
Ella,	1	2	130	4	11	2	18	168	1	3	3	.....	2	17	26	194
Pursglove, Gordon & Co.																
Beaumont,	1	.....	120	.....	10	1	.....	132	1	1	3	.....	2	5	12	144
Bunola Mining Co.																
Bunola,	1	.....	92	.....	14	3	7	117	2	3	2	.....	3	7	17	134
Jos. Walton & Co.																
Walton Upper, ...	1	1	225	.....	12	5	6	250	1	3	6	.....	1	14	25	275
Walton Lower, ...																
Charleroi Coal Co.																
Charleroi,	1	1	125	.....	15	2	5	149	.....	2	3	.....	2	10	17	166

Shoenberger Coal Co.																	
Shoenberger,	1	.....	130	2	8	2	.....	143	1	1	1	2	1	5	11	154
Knob Coal Co.																	
Knob,	1	1	120	10	11	3	5	151	1	1	4	.....	2	9	17	168
Flint & Co.																	
Washington,	1	1	50	2	5	.....	.....	59	1	3	3	.....	4	5	16	75
Robert Jenkins.																	
Milesville,	1	2	90	2	8	2	.....	105	1	2	2	.....	2	8	15	120
Umpire Coal Co.																	
Umpire,	1	1	120	.....	8	2	5	137	.....	1	1	.....	2	8	12	149
Snowden-Gould Co.																	
Albany,	1	2	105	4	13	1	.....	126	1	3	4	.....	1	10	19	145
Smith & Co.																	
Climax,	1	1	50	.....	5	2	1	60	1	1	1	.....	1	6	10	70
Little Redstone Coal Co.																	
Little Redstone,	1	1	112	.....	15	1	19	149	.....	2	4	.....	2	12	20	169
Catsburg Coal Co.																	
Catsburg,	1	2	260	4	8	2	3	220	1	2	5	1	3	23	35	255
James Jones.																	
Ivill,	1	1	150	2	8	1	2	165	1	1	3	1	3	11	20	185
Ivill Coal Co.																	
Gallatin,	1	1	155	2	8	1	2	170	1	1	3	1	3	11	20	190
Rostraver Coal Co.																	
Rostraver,	1	.....	108	1	6	.....	1	117	1	2	2	1	2	5	13	130
A. G. & J. E. Leonard.																	
Anchor,	1	.....	85	.....	6	2	2	96	.....	1	2	.....	1	4	8	104
John A. Wood & Son.																	
Tremont,	1	1	70	.....	8	2	5	87	1	2	2	.....	.....	7	12	99
Buffalo,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Abe Hays,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cliff,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hilldale Coal Co.																	
Hilldale,	1	.....	60	.....	5	.....	2	68	1	1	1	.....	1	4	8	76

Recapitulation.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
M. R. C. C. & C. Co.	10	7	1,085	12	90	21	53	1,278	4	16	17	1	19	102	159	1,437
Pittsburgh Coal Co.	17	14	1,750	.....	162	63	132	2,139	10	31	37	.....	20	149	247	2,386
W. H. Brown's Sons	3	4	384	11	24	8	.....	434	2	8	8	.....	7	32	57	491
Vesta Coal Co.	3	3	230	68	30	4	.....	337	.....	4	11	.....	4	14	33	370
California Coal Co.	3	2	160	5	15	3	16	203	.....	4	6	.....	2	20	32	235
C. Jutte & Co.	3	3	407	10	33	7	10	473	.....	7	4	.....	4	32	47	520
P. J. Forsyth	1	1	140	2	12	2	.....	158	.....	2	3	.....	2	12	19	177
James Black	1	.....	50	.....	3	.....	2	56	.....	1	.....	.....	1	.....	2	58
Crewthers & Co.	1	.....	75	.....	3	.....	1	80	.....	1	.....	.....	.....	3	4	84
Geo. Lysle & Sons	1	1	175	.....	15	3	4	199	1	1	1	.....	1	12	16	215
W. B. Rodgers	1	1	85	5	8	1	.....	101	1	3	3	.....	1	8	17	118
Riverville Coal Co.	1	.....	80	3	4	1	1	90	.....	2	.....	.....	1	5	10	100
Stockdale Coal Co.	1	.....	170	.....	9	1	3	184	.....	2	1	.....	1	11	16	200
Allen Coal Co.	1	.....	30	.....	2	.....	1	34	.....	1	.....	.....	1	3	5	39
Tide Coal Co.	1	1	220	6	15	6	.....	249	1	4	2	.....	1	15	23	272
Barry, Wilson & Co.	1	.....	134	3	11	3	1	153	1	1	2	.....	1	18	23	176
Erie Coal Co.	1	2	130	4	11	2	18	168	1	3	3	.....	1	17	26	194
Pumphrey, Gordon & Co.	1	.....	120	.....	10	1	.....	132	1	1	3	.....	1	5	12	144
Eureka Mining Co.	1	.....	92	.....	14	3	7	117	2	3	2	.....	1	7	17	134
Jos. Walton & Co.	1	1	225	.....	12	5	6	250	1	3	3	.....	1	14	25	275
Charleroi Coal Works	1	1	125	.....	15	2	5	149	.....	2	3	.....	2	10	17	166
Shoenberger Coal Co.	1	.....	130	2	8	2	.....	143	1	1	1	2	1	5	11	154
Knob Coal Co.	1	1	120	10	11	3	5	151	1	1	4	.....	2	9	17	168
Flint & Co.	1	1	50	2	5	.....	.....	59	1	3	3	.....	1	5	16	75
Robert Jenkins	1	2	90	2	8	2	.....	105	1	2	2	.....	1	8	15	120
Umpire Coal Co.	1	1	120	.....	8	2	5	137	.....	1	1	.....	1	8	12	149
Snowden Gould & Co.	1	2	105	4	13	1	.....	126	1	3	1	.....	1	10	19	145

| | | |

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Monongahela River Consolidated Coal and Coke Company.													
Cincinnati	20.50	3.50	21.50	17.75	18.25	18.75	10.75	6.75	10.75	.....	.....	.....	128.50
Fayette City	22.50	13.75	22.50	23.50	23.50	25.50	20	26	21.75	20.50	14	20.25	253.75
Coal Bluff	24	19	17	20	16	23	13	8	18	11	23	17	209
Stony Hill	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	231
Fox	16	6	15	24.25	16.75	14.75	10.75	14	14.25	16	9.25	9	166
Amity	25	7	20	23	24	17	9	14	19	5	15	23	199
Rock Run	22	15.25	21	17.25	19.25	23.50	.....	.....	.....	.....	6.25	19.50	135
Snow Hill	25	13	25	26	25	20	14	15	19	14	24	20	234
Champion	23.50	14	20	22	24.50	18.50	11.25	.....	.....	.....	4.75	22.75	159.25
Eclipse (river)	24	16	26	24	26	24	24	23	27	18	24	24	280
Total	262.50	165.50	188	192.75	181.25	185	112.75	116.75	129.75	84.50	120.25	155.50	1,995.50
Pittsburgh Coal Co.													
Fidelity	22.50	19.25	20.25	19	19.25	15.75	21.75	18.25	19.25	17.75	20.12	16.50	229.62
Blyth	24.75	21.25	25.75	20.25	9.75	24.75	19.50	21	19.75	18.75	22	20.75	244.25
Courtney	7	16.75	6	4.25	11.25	15.50	21.25	14	11.50	9.25	18.34	16.25	151.75
Banner	23	12	16	16	20	11	20	14	13	16	18	23	202
Eclipse (railroad)	19.50	16.50	9	16	21	24	20.50	22	21	19	18	15	221.50
Nottingham	.....	.....	.....	.....	5	19	20	23	17	17	15	13	129
Germania	.....	.....	.....	.....	13	25	24	25	21	19	20	19	166
Snowden	24.12	24.12	25.86	22	21.50	24.62	21.75	23.50	22.37	22.87	21.50	17.37	268.62
Arnold Nos. 1 and 2	22	23	24	21	23	20	21	22	24	23	22	24	269
Arnold No. 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cleveland	22	22	24	21	20	19	20	23	22	23	22	25	263
Somers No. 2	25	25	22	18	22	20	19	22	20	26	21	22	253

Somers No. 3,	.....	.....	.....	.....	8	21	20	23	22	20	18	21	173
Equitable,	16	12	26	24	14	19	19	16	15	12	15	12	191
North Webster,	13	13	14	15	8	14	13	18	15	13	15	11	161
Manown,	14	18	14	21	21	18	15	17	18	17	14	20	210
Hackett,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Anderson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Gastonville,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shepplar,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	225.87	219.87	225.87	239.50	239.75	290.62	286.75	301.75	280.87	267.62	280.37	275.87	3,112.75
W. H. Brown's Sons.													
Old Eagle,	.....	.....	24	23	24	11	.....	.....	.....	.....	.....	13	95
Mongah,	25	13	25	24	21	23	20	18	9	10	24	22	234
Black Diamond,	25	13	20	24	25	16	.....	.....	.....	.....	.....	4	127
	50	26	69	71	70	50	20	18	9	10	24	39	456
Vesta Coal Co.													
Vesta Nos. 1 and 2,	20	12	23	22	22	23	21	21	21	21	25	23	254
Vesta No. 3,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	10	10
Total,	20	12	23	22	22	23	21	21	21	21	25	33	264
California Coal Co.													
Vigilant,	20	17	24.50	24.50	23	22.50	23	19	19	18.75	23	21.50	255.75
Crescent,	18	14.50	23	23	25	22.25	24	20	15	13.25	25.75	18.75	242.50
Total,	38	31.50	47.50	47.50	48	44.75	47	39	34	32	48.75	40.25	498.25
C. Jutte & Co.													
Clipper,	23	16	22	24	25	26	16	25	24	11	19	20	251
Christinia,	14	19	20	19	.....	.....	.....	.....	17	6	.....	3	98
Apollo,	23.50	19.75	25.25	23.75	20.75	24.75	20.75	2.25	6	24.25	23.50	20.25	234.75
Total,	60.50	54.75	67.25	66.75	45.75	50.75	36.75	27.25	47	41.25	42.50	43.25	583.75
P. J. Forsythe.													
Coal Centre,	23.75	11.75	24.50	24.25	22.50	22.50	.....	.....	20.50	12	25	21.75	208.50
James Black.													
Little Alps,	12	23	23	18	21	23	12	23	24	25	20	23	247
Crowthers & Co.													
Crowthers,	24	9	22	23	22	25	18	22	22	11	14	18	230
Geo. Lysle & Sons.													
Camden,	22	8	23.50	23.50	18	25	1	8	7	.....	.....	4	140
W. B. Rodgers.													
Alice,	20	21	25	25	26	25	25	27	24	25	22	25	290
Riverville Coal Co.													
Riverville,	22	7	24	24	24	19	24	18	23	21	22	11	239

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Stockdale Coal Co.													
Acme,	10	18	17	20	19	19	20	14	22	21	19	20	219
Allen Coal Co.													
Allen,	20	22	24	20	21	20	20	16	21	22	20	6	232
Tide Coal Co.													
Chanceunt,	25	17	26	25	26	25	25	27	25	26	26	26	299
Bailey, Wilson & Co.													
Allequippa,	23.50	14	23.50	21.50	13	9	2	10	6.50	.....	.....	3	126
Ella Coal Co.,													
Ella,	25	21	26	24	25	23	23	26	26	24	24	24	291
Pursglove, Gordon & Co.													
Beaumont,	18	22	21	20	22	12	18	19	22	14	23	22	233
Bunola Mining Co.													
Bunola,	26	23	25	18	22	26	24	26	25	26	25	20	286
Jos. Walton & Co.													
Walton, Upper,	21	14	21	24	22	6	.....	.....	.....	.....	4	18	130
Walton Lower,													
Charleroi Coal Co.													
Charleroi,	23	22	26	22	25	24	23	25	23	20	25	23	281

Shoenberger Coal Co.													
Shoenberger,	25	22	24	24	24	20	22	24	24	24	25	24	282
Knob Coal Co.													
Knob,	23	11	22	19	21	25	17	10	8	1	16	18	191
Flint & Co.													
Washington,	22	13	26	19	25	22	24	20	26	24	26	23	270
Robert Jenkins.													
Milesville,	21	19	22	20	20	22	22	20	20	21	21	12	240
Umpire Coal Co.													
Umpire,	19.75	14.50	23.50	18.75	19	13	.....	.....	.....	.....	.....	.....	108.50
Snowden-Gould Co.													
Albany,	21.25	13	20.50	22	18.50	22.50	10.50	18.50	14	2	15	21	198.75
Smith & Co.													
Climax,	13.50	18	21.25	25	21.75	23	18.25	21	24	23.50	.....	.....	209.25
Little Redstone Coal Co.													
Little Redstone,	22	13	25	23.75	24	20.50	14.75	22.75	26	7.75	22.50	21.75	243.75
Catsburg Coal Co.													
Catsburg,	26	22	26	24	25	19	24	27	26	25	26	24	294
James Jones.													
Ivill,	25	24	25	22	24	18	17	20	6	25	26	26	258
Ivill Coal Co.													
Gallatin,	26	24	26	26	26	25	25	26	26	26	25	24	305
Rostraver Coal Co.													
Rostraver,	24	20	26	23	22	25	24	24	21	22	18	18	267
A. G. & J. E. Leonard.													
Anchor,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
John A. Wood & Son.													
Tremont,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Buffalo,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Abe Hays,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cliff,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hilldale Coal Co.													
Hilldale,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Recapitulation.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
M. R. C. C. & C. Co.,	202.50	105.50	188	192.75	181.25	185	112.75	106.75	129.75	84.50	120.25	155.50	1,995.50
Pittsburgh Coal Co.,	225.87	219.87	225.87	217.50	239.75	290.62	286.75	301.75	280.87	267.62	280.37	275.87	3,112.75
W. H. Brown's Sons,	50	26	69	71	70	50	20	18	9	10	24	39	406
Vesta Coal Co.,	20	12	23	22	22	23	21	21	21	21	25	33	264
California Coal Co.,	38	31.50	47.50	47.50	48	44.75	47	39	34	32	48.75	40.25	498.25
C. Jutte & Co.,	60.50	54.75	67.25	66.75	45.75	50.75	36.75	27.25	47	41.25	42.50	43.25	583.75
P. J. Fersyth,	23.75	11.75	24.50	24.25	22.50	22.50	.....	.....	20.50	12	25	21.75	208.50
James Black,	12	23	23	18	21	23	12	23	24	25	20	23	247
Crowthers & Co.,	24	9	22	23	22	25	18	22	22	11	14	18	230
Geo. Lysle & Sons,	22	8	23.50	23.50	18	25	1	8	7	.....	.....	4	140
W. B. Rodgers,	20	21	25	25	26	25	25	27	24	25	22	25	290
Riverville Coal Co.,	22	7	24	24	24	19	24	18	23	21	23	11	239
Stockdale Coal Co.,	10	18	17	20	19	19	20	14	22	21	19	20	219
Allen Coal Co.,	20	22	24	20	21	20	20	16	21	23	20	25	232
Tide Coal Co.,	25	17	26	25	26	25	25	27	25	26	26	25	299
Bailey, Wilson & Co.,	23.50	14	23.50	21.50	13	9	2	10	6.50	.....	.....	3	126
Ella Coal Co.,	25	21	26	24	25	23	23	26	26	24	24	24	291
Pursglove, Gordon & Co.,	18	22	21	20	22	12	18	19	22	14	23	22	233
Bunola Ming Co.,	26	23	25	18	22	26	24	26	25	26	25	20	286
Jos. Walton & Co.,	21	14	21	24	22	6	.....	.....	.....	.....	4	18	130
Charleroi Coal Works,	23	22	26	22	25	24	23	25	23	20	25	23	281
Shoenberger Coal Co.,	25	22	24	24	24	20	22	24	24	24	25	24	282
Knob Coal Co.,	23	11	22	19	21	25	17	10	8	1	16	18	191
Flint & Co.,	22	13	26	19	25	22	24	20	26	24	26	23	270
Robert Jenkins,	21	19	22	20	20	22	22	20	20	21	21	12	240
Umpire Coal Co.,	19.75	14.50	23.50	18.75	19	13	.....	.....	.....	.....	.....	.....	108.50
Snowden, Gould & Co.,	21.25	13	20.50	22	18.50	22.50	10.50	18.50	14	2	15	21	198.75

Smith & Co.,	13.50	18	21.25	25	21.75	23	18.25	21	24	23.50	.....	.....	209.25
Little Redstone Coal Co.,	22	13	25	23.75	24	20.50	14.75	22.75	26	7.75	22.50	21.75	243.75
Catsburg Coal Co.,	26	22	26	24	25	19	24	27	26	25	26	24	294
James Jones,	25	24	25	22	24	18	17	20	6	25	26	26	258
Ivill Coal Co.,	26	24	26	26	26	25	25	26	26	26	25	24	365
Rostraver Coal Co.,	24	20	26	23	22	25	24	24	21	22	18	18	267
A. G. & J. E. Leonard,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
John A. Wood & Son,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hilldale Coal Co.,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total,	1,180.62	915.87	1,279.37	1,216.25	1,205.50	1,202.62	977.75	1,008	1,033.62	904.62	1,030.37	1,063.37	13,229

TABLE IV—List of fatal accidents that occurred in and about the mines of the First Bituminous District, for the year ending December 31, 1899.

Date of accident		Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan	3.	Andrew Ohm,	Miner,	23	S.	....	....	Camden,	Allegheny,	Instantly killed by a fall of slate.
	9.	Joseph Kasinko,	Loader,	19	S.	....	....	Gallatin,	Allegheny,	Instantly killed by a fall of slate.
	27.	George Davis,	Miner,	41	M.	1	5	Clipper,	Washington,	Instantly killed by a fall of slate.
Feb	4.	Frank Brader,	Miner,	34	S.	....	....	Camden,	Allegheny,	Instantly killed by a fall of slate.
	15.	John Kokan,	Miner,	19	S.	....	....	Acme,	Washington,	Instantly killed by a fall of slate.
	1.	Joseph Frayner,	Loader,	26	S.	....	....	Cleveland,	Fayette,	Instantly killed by a fall of slate.
Mar.	14.	P. S. Sweitzer,	Loader,	50	M.	1	4	Eclipse (river),	Washington,	Fatally injured by a fall of slate.
	14.	Samuel Pope,	Engineer,	35	S.	....	....	Knob,	Washington,	Fatally burned by clothes catching fire from his pit lamp; this is the supposed cause, as he was unconscious when found in the engine room.
	31.	Frederick Pagioch,	Miner,	19	S.	....	....	Banner,	Washington,	Instantly killed by a fall of slate and coal.
April	20.	Ernest Metzer,	Loader,	56	M.	1	5	Eclipse (river),	Washington,	Fatally injured by a fall of slate.
	26.	William Brockway,	Loader,	35	S.	....	....	Anchor,	Fayette,	Instantly killed by a fall of slate.
	28.	Martin Golosh,	Loader,	33	S.	....	....	Catsburg,	Washington,	Fatally injured by a fall of slate.
May	13.	Frank Malmanam,	Bit sharpener,	43	M.	1	7	Vesta No. 1,	Washington,	Instantly killed by the bursting of a wheel.
	13.	William Dalton,	Loader,	46	M.	1	9	Tremont,	Fayette,	Fatally injured by a fall of slate.
	14.	William Conley,	Day hand,	44	S.	....	....	Coal Centre,	Washington,	Instantly killed by a fall of roof coal and slate.
	20.	Joshua W. Billings,	Loader,	23	S.	....	....	Banner,	Washington,	Killed by a fall of slate.
	22.	Robert W. Hamilton,	Driver,	38	M.	1	4	Acme,	Washington,	Killed almost instantly by cars.
June	12.	Charles Cobbatt,	Loader,	35	M.	1	1	Knob,	Washington,	Instantly killed by a fall of slate.
	14.	John Janeskie,	Loader,	56	M.	1	1	Eclipse (river),	Washington,	Instantly killed by a fall of slate.
	16.	John Stuckleskey,	Loader,	28	S.	....	....	Eclipse (river),	Washington,	Instantly killed by being run over by the "dilly."
	17.	David Nichols,	Loader,	51	M.	1	7	Vesta No. 1,	Washington,	Fatally injured by blast from an adjoining room.
	19.	Domenico Rossi,	Miner,	28	M.	1	1	Ivill,	Washington,	Fatally injured by an explosion of fire damp.
	20.	Charles Wilding,	Miner,	15	S.	....	....	Washington,	Fayette,	Fatally injured by a fall of slate.
	21.	William Brewer,	Miner,	44	M.	1	4	Fidelity,	Washington,	Fatally injured by a fall of slate.
	24.	George B. Truxo,	Miner,	30	M.	1	1	Anchor,	Fayette,	Instantly killed by a fall of slate.

July	13,	Adolph Steillo,	Miner,	45	M.	1	....	Germania,	Washington,	Instantly killed by a fall of roof coal.
	14,	Felix Stancher,	Miner,	34	S.	....	....	Shoenberger,	Washington,	Instantly killed by a fall of slate.
	21,	John Sege,	Loader,	26	M.	1	1	Arnold No. 1,	Fayette,	Instantly killed by a fall of slate.
Aug.	3,	Charles Andrew,	Miner,	17	S.	....	....	Snowden,	Allegheny,	Instantly killed by a fall of "horse-back."
	14,	Ralph Garbett,	Loader,	50	M.	1	9	Alice,	Fayette,	Fatally injured by a fall of slate.
	15,	John H. Pratt,	Riverman,	36	M.	1	3	Albany,	Fayette,	Fatally injured by the bursting of a boiler.
	17,	Alexander Thompson,	Loader,	48	M.	1	8	Charleroi,	Washington,	Fatally injured by a fall of slate.
	19,	John G. Stannin,	Miner,	37	M.	1	3	Blyth,	Washington,	Instantly killed by a fall of "black jack."
	24,	Paul Bometi,	Loader,	47	M.	1	2	Tremont,	Fayette,	Fatally injured by a fall of slate.
Sept.	14,	Maximillian Hudesky,	Loader,	45	S.	....	....	Catsburg,	Washington,	Instantly killed by a fall of slate.
	25,	Domenico Feeny,	Loader,	44	M.	1	2	Tremont,	Fayette,	Instantly killed by a fall of slate.
Oct.	9,	Robert Gilmore,	Miner,	42	M.	1	7	Germania,	Washington,	Instantly killed by a fall of slate.
	9,	John Warner,	Miner,	32	M.	1	7	Germania,	Washington,	Instantly killed by a fall of slate.
	26,	P. S. Stambaugh,	Superintendent,	31	M.	1	2	Eclipse (railroad),	Washington,	Instantly killed by an iron gauge stick that was forced against him by a pulley wheel.
	27,	John Roley,	Machineman,	26	S.	....	....	Tremont,	Fayette,	Instantly killed by a fall of coal and slate.
Nov.	3,	Antonio Vernaccinni,	Loader,	47	M.	1	4	Cleveland,	Fayette,	Instantly killed by a fall of coal and slate.
	10,	John Stefanick,	Miner,	45	M.	1	1	Acme,	Washington,	Instantly killed by a fall of slate.
	13,	Patrick McBride,	Miner,	23	S.	....	....	Somers No. 2,	Westmoreland,	Fatally injured; caught between motor and pillar.
Dec.	22,	Jacob Brownskel,	Miner,	22	S.	....	....	Crescent,	Washington,	Instantly killed by a fall of slate.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the First Bituminous District, for the year ending December 31, 1899.

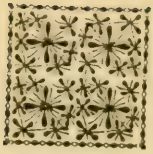
Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 2.	Archibald Baldwin, ...	Day hand, ...	40	M.	Somers No. 2, ...	Westmoreland,.	Arm broken; "crab" on screen broke and struck him.
3.	Richard Murphy, ...	Miner, ...	38	S.	Black Diamond, ...	Washington,....	Leg and foot injured; by a fall of slate.
4.	Michael Gillhooly, ...	Miner, ...	48	M.	Cincinnati, ...	Washington,....	Leg broken by a post falling and striking him.
10.	Amos Lang, ...	Miner, ...	38	S.	Ella, ...	Westmoreland,.	Slightly injured by an explosion of gas.
24.	John Evans, ...	Miner, ...	45	M.	Somers No. 2, ...	Westmoreland,.	Jaw bone broken by a fall of slate.
25.	William Gallagher, ...	Driver, ...	15	S.	Knob, ...	Washington,....	Leg broken by cars running over him.
28.	George Weyels, ...	Hitcher, ...	18	S.	Allequippa, ...	Allegheny.....	Thigh broken; struck by a car.
Feb. 13.	George Yenso, ...	Miner, ...	35	M.	Acme, ...	Washington,....	Foot bruised; struck by coal "shot" from the rib.
18.	Joseph Berricena, ...	Driver, ...	30	M.	Blyth, ...	Washington,....	Four toes cut off; fall of slate.
18.	James Hall, ...	Day hand, ...	17	S.	Blyth, ...	Washington,....	Legs cut off; car ran over it.
20.	Louis Suffern, ...	Miner, ...	46	M.	Snowden, ...	Allegheny.....	Back injured; fall of slate.
Mar. 2.	J. B. Sutton, ...	Miner, ...	40	M.	Charleroi, ...	Washington,....	Leg broken by a fall of slate.
3.	Oscar Kroney, ...	Driver, ...	27	S.	North Webster, ...	Westmoreland,.	Back and foot injured by cars.
4.	John E. Radcliffe, ...	Trapper, ...	15	S.	Umpire, ...	Fayette,.....	Two fingers cut off, by car.
8.	William Holt, ...	Driver, ...	41	M.	Umpire, ...	Fayette,.....	Foot, hip, back and eye bruised; fell from car.
10.	Robert Steinogle, ...	Driver, ...	19	S.	Ella, ...	Westmoreland,.	Rib broken; caught by cars and fell.
11.	Stephen Gambor, ...	Miner, ...	19	S.	Umpire, ...	Fayette,.....	Hip, foot and shoulder bruised; fall of slate.
11.	Christopher Magret, ..	Miner, ...	58	M.	Apollo, ...	Fayette,...	Shoulder dislocated; fall of coal.
17.	Michael Topolian, ...	Day hand, ...	38	M.	Allen, ...	Washington,....	Finger broken; caught between cars.
26.	Natal Brown, ...	Miner, ...	65	M.	Snowden, ...	Allegheny.....	Two ribs broken by a fall of slate.
28.	William Comminsky, .	Miner, ...	35	S.	Knob, ...	Washington,....	Foot injuerd by a fall of slate.
30.	Valente Signiorino, ...	Miner, ...	44	M.	Snowden, ...	Allegheny.....	Shoulder and leg injured by a fall of slate.
April 6.	John Hagedon, ...	Miner, ...	38	M.	Black Diamond, ...	Washington,....	Face and head cut; fall of slate.
7.	Thomas Scanlon, ...	Miner, ...	31	S.	Rostraver, ...	Westmoreland,.	Foot bruised by a fall of slate.
15.	John McIntosh, ...	Trapper, ...	13	S.	Champion, ...	Washington,....	Hand mashed; caught between cars.
17.	Michael Wutelio, ...	Miner, ...	20	S.	Arnold No. 1, ...	Fayette,.....	Leg broken by a fall of slate.
21.	Richard Catle, ...	Miner, ...	56	S.	North Webster, ...	Westmoreland,.	Leg and shoulder bruised by fall of slate.
21.	Peter J. Smith, ...	Miner, ...	54	S.	Christinia, ...	Allegheny.....	Body bruised; fall of coal and slate.

	28,	Marshall Cabbage, ...	Loader, ...	33	S.	Catsburg, ...	Washington.....	Head and face bruised and shoulder crushed by a fall of slate.
May	1,	George Pedro, ...	Loader, ...	18	S.	Fayette City, ...	Fayette.....	Leg broken by a fall of slate.
	3,	Wm. H. S. Spittal, ...	Miner, ...	21	S.	Amity, ...	Allegheny,.....	Leg broken and ankle dislocated by a fall of slate.
	4,	Joseph Brososkey, ...	Miner, ...	23	S.	Crescent, ...	Washington,....	Three toes broken by a fall of slate.
	5,	Gordon Rowe, ...	Driver, ...	21	S.	Crescent, ...	Washington,....	Leg bruised; ran against a car.
	5,	Thomas Sharrit, ...	Miner, ...	33	M.	Beaumont, ...	Washington,....	Leg broken by a fall of slate.
	6,	Henry Matoll, ...	Miner, ...	38	M.	Cincinnati, ...	Washington,....	Foot bruised; caught between cars.
	12,	Michael Farka, ...	Miner, ...	38	M.	Allen, ...	Washington,....	Leg bruised by a fall of coal.
	13,	Andrew Stevens, ...	Miner, ...	22	S.	Vigilant, ...	Washington,....	Femur bone fractured by a fall of coal.
	18,	Frank Naylor, ...	Loader, ...	46	M.	North Webster, ...	Westmoreland,..	Foot bruised by a fall of slate.
	18,	Joseph Glancy, ...	Machine runner,.....	40	M.	Fayette City, ...	Fayette,.....	Ankle bone dislocated; fell while going to work.
	19,	John Grant, ...	Miner, ...	46	S.	Eclipse R. R., ...	Washington,....	Leg broken and hurt internally by a fall of slate.
	25,	John Turori, ...	Miner, ...	45	M.	Tremont, ...	Fayette,.....	Leg cut off by a fall of slate.
	29,	John Morris, ...	Machine runner, ...	26	S.	Eclipse R. R., ...	Washington,....	Back bruised by a fall of slate.
June	1,	Charles Houseman, ...	Miner, ...	58	S.	Albany, ...	Fayette,.....	Ankle sprained by a fall of coal and slate.
	3,	John Gerger, ...	Miner, ...	32	S.	Albany, ...	Fayette,.....	Thigh bruised and head cut by a fall of coal and slate.
	3,	H. Heighmen, ...	Helper, ...	32	S.	Milesville, ...	Allegheny.....	Foot bruised by a fall of slate.
	6,	John Senba, ...	Loader, ...	35	M.	Ella	Westmoreland,..	Foot crushed by a fall of slate.
	6,	Chesleg Ambrosia, ...	Miner, ...	21	S.	Mongah, ...	Allegheny,.....	Leg, foot and ankle bruised by a fall of slate.
	6,	Edgar Pastoro, ...	Miner, ...	26	S.	Mongah, ...	Allegheny.....	Back bruised by a fall of slate.
	14,	Domenico Vesuki, ...	Miner, ...	45	M.	Cleveland, ...	Fayette,.....	Thigh fractured by a fall of slate.
	15,	Paul Boots, ...	Miner, ...	40	M.	Albany, ...	Fayette, ...	Foot bruised by slate falling on him.
	17,	Thomas Mathews, ...	Fire boss, ...	39	M.	Black Diamond, ...	Washington,....	Hand slightly burned by an explosion of fire damp.
	17,	Thomas Stitts, ...	Miner, ...	54	M.	Clipper, ...	Washington,....	Collar bone broken by a fall of coal.
	17,	Phillip Lawler, ...	Miner, ...	26	S.	Little Redstone, ...	Fayette,.....	Leg and thigh broken by a fall of slate.
	19,	Martin Rosene, ...	Miner, ...	32	M.	Ivill, ...	Washington,....	Face and hands burned by an explosion of fire damp.
	21,	Alexander Bodock, ...	Miner, ...	27	S.	Arnold No. 1, ...	Fayette,.....	Back injured by a fall of slate.
	24,	Morgan Evans, ...	Miner, ...	19	S.	Somers No. 2, ...	Westmoreland,..	Hand injured by a fall of slate.
July	1,	George Cosella, ...	Miner, ...	38	M.	Coal Bluff, ...	Washington,....	Leg broken by a fall of slate.
	3,	John Morruke, ...	Miner, ...	16	S.	Charleroi, ...	Washington,....	Leg broken; fall of slate; leg was afterwards amputated.
	5,	Walter Devore, ...	Driver, ...	23	M.	Eclipse R. R., ...	Washington,....	Back sprained; run over by wagon.
	8,	John Walker, ...	Loader, ...	25	S.	Vesta No. 1, ...	Washington,....	Bruised about body by a fall of slate.
	10,	James Malady, ...	Miner, ...	35	M.	Somers No. 2, ...	Westmoreland..	Leg broken by a fall of slate.
	11,	Joseph Maginn, ...	Furnaceman, ...	74	M.	Courtney, ...	Washington,....	Leg broken; ran over by "dilly;" leg afterwards amputated.
	11,	Robert Cook, ...	Scraper, ...	24	S.	Vesta No. 1, ...	Washington,....	Leg broken by a fall of coal.
	12,	John Holmes, ...	Miner, ...	16	S.	Gallatin, ...	Allegheny,.....	Skull fractured; trapdoor fell on him.
	14,	Patrick Ryan, ...	Miner, ...	55	S.	Apollo, ...	Fayette.....	Head and face bruised by a fall of slate.
	14,	Andrew Booter, ...	Miner, ...	35	M.	Allen, ...	Washington,....	Leg broken by a fall of slate.
	18,	Emil Perlot, ...	Miner, ...	60	M.	Fidelity, ...	Washington.....	Pelvic bone and two ribs broken while attempting to get on "trip."
	20,	William Booth, ...	Weighman, ...	26	M.	North Webster, ...	Westmoreland..	Leg broken; fell from the tipple with empty wagon.
	20,	John Ecclessall, ...	Miner, ...	59	S.	Shoenberger, ...	Washington,....	Leg broken by a fall of slate.
	22,	Frederick Brinkman, .	Miner, ...	28	S.	Rostraver, ...	Westmoreland..	Face cut and back injured; fall of coal and slate.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
July 28.	Michael Gallowitch, ...	Loader, ...	22	S.	Fayette City, ...	Fayette,.....	Hip dislocated by a fall of roof coal.
29.	Walter Schwotzer, ...	Miner, ...	13	S.	Snowden, ...	Allegheny,.....	Leg broken by a fall of slate.
31.	Thomas Harrison, ...	Assistant foreman, ...	68	M.	Amity, ...	Allegheny,.....	Hips and shoulder bruised; fall of "horse-back."
31.	Rocce Evans, ...	Laborer, ...	25	M.	Amity, ...	Allegheny,.....	Skull fractured by a fall of "horse-back."
31.	James Stevens, ...	Miner, ...	47	M.	Crescent, ...	Washington,....	Face, neck and hands burned; firing a shot.
Aug. 9.	John Davidson, ...	Miner, ...	30	S.	Mongah, ...	Allegheny,.....	Thigh broken by a fall of slate.
12.	Simon Sincovitch, ...	Miner, ...	35	S.	Eclipse R. R., ...	Washington,....	Ankle broken by a falling post.
14.	James Doubt, ...	Miner, ...	39	M.	Bunola, ...	Allegheny,.....	Seriously injured by a fall of slate.
15.	Edward Thomas, ...	Miner, ...	42	M.	Walton, Upper, ...	Allegheny,.....	Back and ankle injured by a fall of slate.
21.	Arthur Edwards, ...	Miner, ...	19	S.	Beumont, ...	Washington,....	Leg broken by being squeezed by car.
24.	Henry Boyd, ...	Loader, ...	17	S.	Ella, ...	Westmoreland,.	Head injured by a fall of slate.
26.	John Pieklinsky, ...	Miner, ...	34	S.	Catsburg, ...	Washington,....	Face and hands burned; gas ignited in drill hole.
Sept. 1.	Peter Undermeal, ...	Miner, ...	37	M.	Cincinnati, ...	Washington,....	Foot injured by a fall of coal.
6.	Joseph Josline, ...	Miner, ...	39	M.	Catsburg, ...	Washington,....	Foot crushed by a fall of slate.
6.	Edgar Clemensen, ...	Miner, ...	20	S.	Fayette City, ...	Fayette,.....	Feet injured; struck by post.
6.	Lewis Lindy, ...	Loader, ...	20	S.	Fayette City, ...	Fayette,.....	Arm crushed by a fall of slate.
13.	George Clemencer, ...	Loader, ...	23	S.	Fayette City, ...	Fayette,.....	Arm broken by a fall of coal.
26.	John Costa, ...	Miner, ...	28	M.	Somers No. 2, ...	Westmoreland,.	Collar bone broken and ankle bruised by fall of coal and slate.
Oct. 6.	Edward Bowler, ...	Miner, ...	35	S.	Charlerol, ...	Washington,....	Head bruised by a fall of slate.
9.	Thomas Ward, ...	Miner, ...	35	M.	Ella, ...	Westmoreland,.	Foot crushed by fall of coal and slate.
10.	David Conser, ...	Loader, ...	22	S.	Ella, ...	Westmoreland,.	Wrist broken; slipped and fell.
11.	Thomas Hall, ...	Mine foreman, ...	38	M.	Shoenberger, ...	Washington,....	Arm broken by falling on an iron rail.
12.	Michael Barron, ...	Miner, ...	47	M.	Crescent, ...	Washington,....	Hip dislocated by being struck by sliding slate.
29.	William Meadville, ...	Miner, ...	49	M.	Snowden, ...	Allegheny,.....	Collar bone broken by being struck by a post.
30.	William Finley, ...	Driver, ...	22	S.	Cleveland, ...	Fayette,.....	Leg lacerated; struck by "dilly" line.
31.	Harry Wessell, ...	Driver, ...	19	S.	Nottingham, ...	Washington,....	Bone in foot splintered; caught under wagon.

Nov.	1,	William Cratty,	Driver,	22	S.	Apollo,	Fayette,	Collar bone broken; car jumped from track and struck him.
	2,	Henry Goley,	Miner,	23	S.	Anchor,	Fayette,	Leg broken; run over by a car.
	2,	R. P. Perry,	Miner,	55	M.	Eclipse R. R.,	Washington,	Side and ankle bruised by a fall of slate.
	7,	John Nowork,	Loader,	16	S.	Ella,	Westmoreland,	Hands and face burned; explosion of gas.
	7,	HumphreyAormay,	Loader,	28	S.	Cleveland,	Fayette,	Leg lacerated by fall of slate.
	8,	Pietro Tognonina,	Miner,	26	M.	Shoenberger,	Washington,	Head cut and body bruised by a fall of slate.
	11,	William Martin,	Miner,	40	M.	Arnold,	Fayette,	Bruised about the body by a fall of slate.
	19,	Joseph Lapinsky,	Miner,	42	S.	Rostraver,	Westmoreland,	Two fingers severed from hand; caught between wagon and rib.
	20,	Ernest Geo,	Driver,	22	S.	Cleveland,	Fayette,	Internally injured; crushed between car and rib.
	22,	Frank Wookman,	Miner,	50	M.	Apollo,	Fayette,	Small bone in arm broken; struck by empty wagon.
Dec.	6,	Burnett Payne,	Driver,	24	S.	Albany,	Fayette,	Foot cut and bruised; machine fell on his foot.
	11,	Paul Penyock,	Miner,	31	M.	Crescent,	Washington,	Collar bone broken by a fall of coal.
	11,	Daniel Bubeneck,	Miner,	27	S.	Charleroi,	Washington,	Leg broken by a fall of slate.
	12,	Michael Smith,	Driver,	24	S.	Crescent,	Washington,	Leg fractured by being run over by a car.
	12,	Edward C. Howe,	Miner,	17	S.	Coal Centre,	Washington,	Leg broken by a fall of slate.
	12,	John Budnor,	Miner,	23	S.	Acme,	Washington,	Leg broken by a fall of slate.
	14,	Charles Ivill,	Driver,	18	S.	Ella,	Westmoreland,	Arm injured; squeezed betweene car and rib.
	28,	Edward Caley, Sr.,	Miner,	54	M.	Walton, Lower,	Allegheny,	Back and arm injured by a fall of roof coal.



Second Bituminous District.

ALLEGHENY, INDIANA AND WESTMORELAND COUNTIES.

Greensburg, Pa., February 28, 1900.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: I have the honor to herewith submit my report as Inspector of Mines for the Second Bituminous district for the year ending December 31, 1899, in compliance with Section 2 of Article 10 of the Bituminous Mining Act, approved the 15th day of May, 1893.

The coal and coke trade in this district is still on the increase. In 1898 the total production was 9,820,673 tons of coal and 3,049, 537 of coke, while in 1899 the production was 12,077,460.62 tons of coal and 4,075,822 of coke, an increase of 2,256,787.62 tons of coal and 1,026,285 tons of coke over the output of 1898. There has also been an increase in the number of persons employed. In 1898 the number was 12,501. In 1899 the number was 14,758 an increase of 2,257.

I regret, however, to report thirty-six fatal accidents, an increase of six over 1898. As a result of these fatalities twenty-two wives were made widows and sixty-four children fatherless.

The number of non-fatal accidents was 42, showing a decrease of twenty-four, there having been a total of 66 in 1898.

During the year 1898 the number of tons of coal produced was 327,355.7 for each fatal accident and 148,798 tons for each non-fatal accident. While for 1899 the number of tons produced for each fatal was 335,485, and 287,558.5 tons for each non-fatal accident. These figures make a favorable comparison with the ones of the previous year, especially when the increase in the number of persons employed is considered.

At least fourteen of the fatal accidents might have been prevented if the unfortunate persons had themselves exercised ordinary care. The others were unavoidable. The same may be said of the non-fatal accidents, quite a number having been due to carelessness on the part of the injured persons.

The names of two mines have been dropped; Graceton No. 1, which has not been in operation for several years and is now abandoned, and Valley Camp, a small mine which employed

fewer than ten persons. There were six new mines, viz: Atlantic No. 2, Burrell No. 2, Jamison No. 2, Acme, Oak Hill No. 5 and Empire opened during the year, making the number of mines in the district 77, seventy-six of which have been in operation during a part of or the entire year. There are also several mines being opened, which will increase the number considerably before this report will have reached the public.

I am pleased to report that with few exceptions the condition of the mines has improved in comparison with last year. This is true especially in regard to ventilation. Five fans and four furnaces were put in operation during the year, all of which are now giving very satisfactory results.

The report contains the usual tables and statistics, with additional tables from A to H, with a brief description of the mines, together with the most important improvements made at them; also a description of the fatal accidents. A tracing of the general plan of new mine stables now under construction at the No. 2 Standard shaft of the H. C. Frick Coke Company is herewith produced, together with a description of their construction kindly furnished by Mr. Robert Ramsey, the Superintendent.

A copy of the evidence and decree of the court of quarter sessions of Westmoreland county, in re appeal of A. N. Humphries, General Superintendent, from my decision with reference to the examination of the Larimer Mine by fire bosses, as per Section 2, Article 5 of the act of May 15, 1893, is also made a part of this report.

I also attach to the report some observations with regard to that part of Section 11 of Article 10 of the act of May 15, 1893, "relating to Bituminous coal mines, etc," which requires a visit to each mine by the mine Inspector once in every period of three months; also my views with respect to the use of electricity and compressed air in the mines, and their comparative value and safety to employes.

All of which is respectfully submitted.

C. B. ROSS,
Mine Inspector.

Summary of Statistics, 1899.

Number of mines in the district,	77
Number of mines in operation during 1899,	76
Number of tons of coal produced,	12,077,460.62
Number of tons shipped,	5,719,202.00
Number of tons used for steam at mines,	198,851.78
Number of tons sold to employes and others,	150,096.18
Number of coke ovens,	8,052
Number of tons of coke produced,	4,075,822
Number of persons employed inside the mines,	10,552

Number of persons employed outside,	4,206
Number of fatal accidents,	36
Number of tons of coal produced per fatal accident,	335,485
Number of non-fatal accidents,	42
Number of tons of coal produced per non-fatal accidents,	287,558.5
Number of persons employed per fatal accident,	410
Number of persons employed per non-fatal accident,	351
Number of wives made widows by accidents,	22
Number of orphans by accidents,	64
Number of kegs of powder used,	1,954
Number of pounds of dynamite used,	11,510
Number of cylindrical boilers in use,	139
Number of tubular boilers,	140
Number of steam locomotives,	31
Number of compressed air locomotives,	4
Number of electric locomotives,	2
Number of new mines opened,	6
Number of old mines abandoned,	1

Production of Coal in Tons During the Year 1899.

H. C. Frick Coke Company,	2,256,469.00
South West Connellsville Coke Company,	1,329,994.00
New York and Cleveland Gas Coal Company,	1,208,178.55
Westmoreland Coal Company,	1,157,509.65
Penn Gas Coal Company,	582,252.00
The Hecla Coke Company,	509,550.50
Hostetter Connellsville Coke Company,	460,000.00
Loyalhanna Coal and Coke Company,	396,910.00
Bessemer Coke Company,	226,070.56
Greensburg Coal Company,	178,180.00
Jamison Coal and Coke Company,	158,060.00
Atlantic Crushed Coke Company,	73,000.00
Burrell Coal Company,	48,789.00
McCreary Coke Company,	73,500.00
American Coke Company,	316,579.00
Ocean Coal Company,	295,510.00
Sewickley Gas Coal Company,	201,614.20
Carbon Coal Company,	238,182.13
Alexandria Coal Company,	188,085.00
Arona Gas Coal Company,	195,055.05
American Steel Hoop Company,	185,450.00
Derry Coal and Coke Company,	253,011.54
Hempfield Coal Company,	148,796.00
Latrobe Coal Company,	231,244.10

Claridge Gas Coal Company,	133,005.40
Manor Gas Coal Company,	145,364.90
Corey Coal Company,	144,362.00
Millwood Coal and Coke Company,	107,373.00
J. A. Strickler Coke Company, Ltd.,	85,696.05
Spring Hill Gas Coal Company,	89,371.00
M. Saxman, Jr., and Company,	77,610.00
Blairsville Coke Company, Ltd.,	33,770.00
Maher Coal and Coke Company,	31,974.00
The Ligonier Coal Company,	50,189.29
Robert Smith,	45,737.09
Braeburn Steel Company,	15,485.00
Standard Connellsville Coke Company,	83,769.00
Indiana Coal Company,	7,550.00
Boliver Coal and Coke Company,	15,760.00
Penn Manor Shaft Company,	17,366.50
Weinman Bros.,	8,666.00
G. Vogele,	5,466.00
W. J. Rainey,	49,955.20
Hampton Coal Company,	17,000.05
Total,	12,077,460.62

The total production was made up as follows:

Shipped by railroad to market,	5,719,202.00
Sold at the mines for local use,	150,096.18
Consumed to generate steam,	198,852.78
Manufactured into coke,	6,009,310.66
Total,	12,077,460.62

TABLE A.—Showing the Production of Coal, Number of Persons Employed by each Company, Number of Tons Produced per Person Employed during the Year 1899, and the Average Number of tons Produced per Employe.

Names of Companies.	Number of tons produced.	Number of persons employed.	Number of tons produced per employe.
H. C. Frick Coke Company,	2,256,469.00	2,668	845.7
South West Connellsville Coke Company,	1,329,934.00	1,222	1,088.4
New York and Cleveland Gas Coal Company,	1,208,178.55	1,296	932.2
Westmoreland Coal Company,	1,157,509.65	1,212	963.3
Penn Gas Coal Company,	582,252.00	888	655.7
The Hecla Coke Company,	509,550.50	654	779.1
Hostetter Connellsville Coke Company,	460,000.00	641	717.6
Loyalhanna Coal and Coke Company,	396,910.00	596	665.1
Bessemer Coke Company,	226,070.56	390	579.7
Greensburg Coal Company,	178,180.00	174	1,024.0
Jamison Coal and Coke Company,	158,060.00	227	695.6
Atlantic Crushed Coke Company,	73,000.00	108	675.9
Burrell Coal Company,	48,789.00	53	920.3
McCreary Coke Company,	73,500.00	131	561.0
American Coke Company,	316,579.00	460	688.2
Ocean Coal Company,	295,510.00	310	953.2
Sewickley Gas Coal Company,	201,614.20	264	763.6
Carbon Coal Company,	238,182.13	223	1,067.6
Alexandria Coal Company,	188,085.00	325	578.7
Arona Gas Coal Company,	195,055.05	253	770.9
American Steel Hoop Company,	185,450.00	225	824.2
Derry Coal and Coke Company,	253,011.54	280	903.6
Hempfield Coal Company,	148,796.00	146	1,019.1
Latrobe Coal Company,	231,244.10	276	837.8
Claridge Gas Coal Company,	133,005.40	233	570.8
Manor Gas Coal Company,	145,364.90	155	937.8
Corey Coal Company,	144,363.00	223	647.4
Millwood Coal and Coke Company,	107,373.60	136	789.5
J. A. Strickler Coke Company, Limited,	85,696.05	54	1,586.9
Spring Hill Gas Coal Company,	89,371.00	133	671.9
M. Saxman, Jr., and Company,	77,610.00	83	935.0
Blairsville Coke Company, Limited,	33,770.00	28	1,206.1
Maher Coal and Coke Company,	31,974.00	36	888.2
The Ligonier Coal Company,	50,189.29	42	1,194.9
Robert Smith,	45,737.00	52	879.5
Braeburn Steel Company,	15,485.00	20	774.2
Standard Connellsville Coke Company,	83,769.00	108	775.6
Indiana Coal Company,	7,550.00	34	222.1
Boliver Coal and Coke Company,	15,760.00	24	656.6
Penn Manor Shaft Company,	17,366.50	96	180.9
Weinman Bros.,	8,666.00	17	509.7
G. Vogele,	5,466.00	14	390.4
W. J. Rainey,	49,955.20	113	442.0
Hampton Coal Company,	17,000.00	125	136.8
Total and average,	12,077,460.62	14,758	818.3

TABLE B—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Name of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
H. C. Frick Coke Company,	5	451,294
South West Connellsville Coke Company,	1	1,329,994
New York and Cleveland Gas Coal Company,	6	201,363
Westmoreland Coal Company,	8	144,688
Penn Gas Coal Company,	.....	.....
The Hecla Coke Company,	1	509,550
Hostetter Connellsville Coke Company,	.....	.....
Loyalhanna Coal and Coke Company,	3	132,303
Bessemer Coke Company,	.....	.....
Greensburg Coal Company,	.....	.....
Jamison Coal and Coke Company,	1	158,060
Atlantic Crushed Coke Company,	.....	.....
Burrell Coal Company,	.....	.....
McCreary Coke Company,	.....	.....
American Coke Company,	.....	.....
Ocean Coal Company,	1	295,510
Sewickley Gas Coal Company,	.....	.....
Carbon Coal Company,	1	238,182
Alexandria Coal Company,	2	94,042
Arona Gas Coal Company,	1	195,055
American Steel Hoop Company,	.....	.....
Derry Coal and Coke Company,	1	253,011
Hempfield Coal Company,	.....	.....
Latrobe Coal Company,	.....	.....
Claridge Gas Coal Company,	1	133,005
Manor Gas Coal Company,	.....	.....
Corey Coal Company,	2	72,181
Millwood Coal and Coke Company,	.....	.....
J. A. Strickler Coke Company, Limited,	.....	.....
Spring Hill Gas Coal Company,	.....	.....
M. Saxman, Jr., and Company,	.....	.....
Blairsville Coke Company, Limited,	.....	.....
Maher Coal and Coke Company,	1	31,974
The Ligonier Coal Company,	.....	.....
Robert Smith,	.....	.....
Braeburn Steel Company,	.....	.....
Standard Connellsville Coke Company,	1	83,769
Indiana Coal Company,	.....	.....
Bolivar Coal and Coke Company,	.....	.....
Penn Manor Shaft Company,	.....	.....
Weinman Bros.,	.....	.....
G. Vogele,	.....	.....
W. J. Rainey,	.....	.....
Hampton Coal Company,	.....	.....
Total and average,	36	335,485

TABLE C—Showing the Number of Fatal and Non-fatal Accidents, and the Number of Tons of Coal Produced per Accident.

Name of Companies.	Number of accidents.	Number of tons of coal produced per accident.
H. C. Frick Coke Company,	10	225,646.9
South West Connellsville Coke Company,	3	443,331.3
New York and Cleveland Gas Coal Company,	14	86,298.4
Westmoreland Coal Company,	12	96,459.1
Penn Gas Coal Company,	4	145,563.0
The Hecla Coke Company,	1	509,550.5
Hostetter Connellsville Coke Company,	1	460,000.0
Loyalhanna Coal and Coke Company,	7	56,701.4
Bessemer Coke Company,	.....	.....
Greensburg Coal Company,	2	89,090.0
Jamison Coal and Coke Company,	1	158,060.0
Atlantic Crushed Coke Company,	.....	.....
Burrell Coal Company,	.....	.....
McCreary Coke Company,	.....	.....
American Coke Company,	.....	.....
Ocean Coal Company,	2	147,755.0
Sewickley Gas Coal Company,	1	201,614.2
Carbon Coal Company,	2	119,091.0
Alexandria Coal Company,	2	94,042.5
Arona Gas Coal Company,	4	48,763.7
American Steel Hoop Company,	.....	.....
Derry Coal and Coke Company,	2	126,505.7
Hempfield Coal Company,	1	148,796.0
Latrobe Coal Company,	.....	.....
Claridge Gas Coal Company,	3	44,335.1
Manor Gas Coal Company,	1	145,364.9
Corey Coal Company,	2	72,181.0
Millwood Coal and Coke Company,	.....	.....
J. A. Strickler Coke Company, Limited,	.....	.....
Spring Hill Gas Coal Company,	1	89,371.0
M. Saxman, Jr., and Company,	.....	.....
Blairsville Coke Company, Limited,	.....	.....
Maher Coal and Coke Company,	1	31,974.0
The Ligonier Coal Company,	.....	.....
Robert Smith,	.....	.....
Braeburn Steel Company,	.....	.....
Standard Connellsville Coke Company,	1	83,769.0
Indiana Coal Company,	.....	.....
Boliver Coal and Coke Company,	.....	.....
Penn Manor Shaft Company,	.....	.....
Weinman Bros.,	.....	.....
G. Vogele,	.....	.....
W. J. Rainey,	.....	.....
Hampton Coal Company,	.....	.....
Total and average,	78	154,839.2

TABLE D—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured.	Injured.	Total.
By falls of coal,	3	4	7
By falls of slate,	15	18	33
By falls of roof,	5	3	8
By cars,	8	12	20
By premature blasts,	.....	1	1
By explosions of powder,	.....	1	1
By machinery general,	1	1	2
Miscellaneous causes,	4	2	6
Total,	36	42	78

TABLE E—Occupation of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners,	22	28	50
Machine loaders,	4	3	7
Drivers,	5	8	13
Boss Driver,	.....	1	1
Oilers and runners,	.....	2	2
Company men inside,	1	.....	1
Rope rider,	1	.....	1
Engineer,	1	.....	1
Machinist,	1	.....	1
Total,	36	42	78

TABLE F—Nationality of Persons Killed or Injured.

	Welsh.	English.	Scotch.	Irish.	Poles.	Slavs.	Austrians.	Americans.	Hungarians.	Italians.	Swedes.	Germans.	Russians.	Bohemians.	Total.
Killed,	2	.....	2	1	.....	5	3	11	1	4	1	3	2	1	36
Injured,	.....	2	1	3	3	2	5	12	1	3	3	2	2	3	42
Total,	2	2	3	4	3	7	8	23	2	7	4	5	4	4	78

TABLE G—Name of Mine, Kind of Opening, Method of Haulage, Method of Ventilation, Pick or Machine and type of Machine.

Name of Mine.	Shaft, Slope or Drift Opening.	Method of Haulage.	Fan or Furnace.	Pick or Machine.	Type of Machine.
H. C. Frick Coke Co.					
Central,	Slope,	Rope and mules,	Fan,	Pick.	
Mammoth Shaft,	Shaft,	Rope and mules,	Fan,	Pick.	
Mammoth slope,	Slope,	Rope and mules,	Fan,	Pick.	
Mutual No. 2,	Drift,	Mules,	Fan,	Pick.	
Mutual No. 3,	Slope,	Rope and mules,	Fan,	Pick.	
Monastery,	Slope,	Rope and mules,	Fan,	Pick.	
Standard Shaft,	Shaft,	Rope and mules,	Fan,	Pick.	
Standard slope,	Slope,	Rope and mules,	Fan,	Pick.	
United,	Shaft,	Compressed air, locomotive and mules.	Fan,	Pick.	
Calumet,	Shaft,	Mules,	Fan,	Pick.	
S. W. Connellsville Coke Co.					
No. 1 "A,"	Shaft,	Rope and mules,	Fan,	Pick.	
No. 1 "B,"	Shaft,	Rope and mules,	Fan,	Pick.	
No. 2,	Slope,	Rope and mules,	Fan,	Pick.	
No. 3,	Slope,	Rope and mules,	Fan,	Pick.	
No. 4,	Slope,	Rope and mules,	Fan,	Pick.	
N. Y. & Cleveland Gas Coal Co.					
Plum Creek,	Drift,	Steam locomotive and mules.	Furnace,	Pick.	
Sandy Creek,	Drift,	Steam locomotive and mules.	Furnace,	Pick.	
Pleasant Valley,	Drift,	Mules,	Furnace,	Pick.	
Oak Hill No. 4,	Drift,	Rope and mules,	Furnace,	Pick.	
Oak Hill No. 5,	Drift,	Mules,	Furnace,	Pick.	
Westmoreland Coal Co.					
Westmoreland Shaft,	Shaft,	Rope and mules,	Fan,	Pick and machine,	Compressed air.
Larimer,	Slope,	Rope and mules,	Fan,	Pick and machine,	Electric.
Export,	Drift,	Rope and mules,	Fan,	Pick and machine,	Electric.
Penn Gas Coal Co.					
Coal Run,	Drift,	Mules,	Furnace,	Pick.	
No. 1,	Shaft,	Rope and mules,	Fan,	Pick.	
No. 2,	Shaft,	Compressed air, locomotives and mules.	Fan,	Pick and machine,	Compressed air.
No. 4,	Slope,	Rope and mules,	Furnace,	Pick.	
The Hecla Coke Co.					
Hecla No. 1,	Shaft,	Mules,	Fan,	Pick.	
Hecla No. 2,	Shaft,	Mules,	Fan,	Pick.	

TABLE G—Continued.

Name of Mine.	Shaft, Slope or Drift Opening.	Method of Haulage.	Fan or Furnace.	Pick or Machine.	Type of Machine.
Hostetter Connellsville Coke Co.					
Whitney,	Slope,	Rope and mules,	Fan,	Pick.	
Hostetter,	Slope,	Rope and mules,	Fan,	Pick.	
Loyalhanna Coal & Coke Co.					
Loyalhanna No. 1,	Shaft,	Rope and mules,	Fan,	Pick.	
Loyalhanna No. 2,	Shaft,	Mules,	Fan,	Pick.	
Pandora,	Shaft,	Mules,	Fan,	Pick.	
Bessemer Coke Co.					
Humphreys,	Drift,	Mules,	Fan,	Pick.	
Saint Clair,	Drift with slope workings.	Rope and mules,	Furnace,	Pick.	
Empire,	Drift,	Mules,		Pick.	
Greensburg Coal Co.					
Greensburg No. 1,	Slope,	Rope and mules,	Fan,	Pick.	
Greensburg No. 2,	Slope,	Rope and mules,	Fan,	Pick.	
Jamison Coal & Coke Co.					
Jamison No. 1,	Slope,	Rope and mules,	Fan,	Pick and machine,	Compressed air.
Jamison No. 2,	Drift,	Mules,	Steam jet,	Pick.	
Atlantic Crushed Coke Co.					
Atlantic No. 1,	Drift,	Rope and mules,	Natural,	Pick.	
Atlantic No. 2,	Slope,	Rope and mules,	Exhaust steam,	Pick.	
Burrell Coal Co.					
Burrell No. 1,	Drift,	Mules,	Furnace,	Pick.	
Burrell No. 2,	Drift,	Mules,	Furnace,	Pick.	
McCreary Coke Co.					
Graceton No. 2,	Drift,	Rope and mules,	Fan,	Pick and machine,	Compressed air.
American Coke Co.					
Puritan,	Slope,	Rope and mules,	Fan,	Pick.	
Ocean Coal Co.					
Ocean No. 1,	Shaft,	Rope and mules,	Fan,	Pick and machine,	Compressed air.
Sewickley Gas Coal Co.					
Madison,	Slope,	Rope and mules,	Fan,	Pick.	
Carbon Coal Co.					
Carbon,	Slope,	Compressed air locomotive, rope and mule.	Fan,	Pick.	

Alexandria Coal Co. Alexandria,	Drift with slope workings.	Rope and mules,	Fan,	Pick.
Arona Gas Coal Co. Arona,	Slope,	Rope and mules,	Fan,	Pick.
American Steel Hoop Co. Isabella,	Slope,	Rope and mules,	Fan,	Pick.
Derry Coal & Coke Co. Derry Shaft,	Shaft,	Electric motor and mule,	Fan,	Pick.
Hempfield Coal Co. Hempfield,	Slope,	Rope and mules,	Fan,	Pick.
Latrobe Coal Co. Latrobe,	Drift with slope workings.	Rope and mules,	Fan,	Pick.
Claridge Gas Coal Co. Claridge,	Drift,	Rope and mules,	Fan,	Pick.
Manor Gas Coal Co. Denmark,	Slope,	Rope and mules,	Fan,	Pick.
Corey Coal Co. Duquesne,	Drift,	Steam locomotives and mules.	Furnace,	Pick.
Millwood Coal & Coke Co. Millwood shaft,	Shaft,	Rope and mules,	Fan,	Pick.
J. A. Strickler Coke Co., Ltd. Strickler,	Slope,	Rope and mules,	Fan,	Pick.
Spring Hill Gas Coal Co. Spring Hill,	Drift,	Steam locomotive and mules.	Furnace,	Pick.
M. Saxman, Jr., & Co. M. Saxman,	Drift and shaft,	Mules,	Natural,	Pick.
Blairsville Coke Co. Ltd. Graff,	Drift,	Mules,	Furnace,	Pick.
Maher Coal & Coke Co. Maher No. 2,	Drift,	Mules,	Furnace,	Pick.
The Ligonier Coal Co. S. H. Smith,	Drift,	Mules,	Furnace,	Pick.
Robert Smith. Smith,	Drift,	Mules,	Fan,	Pick.
Braeburn Steel Co. Braeburn,	Drift,	Mules,	Fan,	Pick.

TABLE G—Continued.

Name of Mine.	Shaft, Slope or Drift Opening.	Method of Haulage.	Fan or Furnace.	Pick or Machine.	Type of Machine.
Standard Connellsville Coke Co.					
Marguerite,	Drift and slope,	Rope and mules,	Furnace,	Pick.	
Indiana Coal Co.					
Mitchell,	Drift,	Mules,	Fan,	Pick.	
Bolivar Coal & Coke Co.					
Lockport,	Drift,	Mules,	Furnace,	Pick.	
Penn Manor Shaft Co.					
Penn Manor Shaft,	Shaft,	Mules,	Fan,	Pick.	
Weinman Bros.					
Weinman,	Drift,	Mules,	Furnace,	Pick.	
G. Vogele.					
Ocean,	Drift,	Mules,	Furnace,	Pick.	
W. J. Rainey.					
Acme,	Shaft,	Mules,	Fan,	Pick.	
Hampton Coal Co.					
Hampton,	Drift,	Mules,	Furnace,	Pick.	
Lucesco (idle),	Drift,	Mules,	Furnace,	Pick.	

TABLE H--Names of Operators, names of Mines, cubic feet of air in Circulation per Minute when last visited, number of Persons Employed inside, and cubic feet of air per minute per each Person Employed.

Names of Mines.	Cubic feet of air per minute in circulation.	Number of persons employed inside.	Cubic feet of air per minute for each person employed.
H. C. Frick Coke Co.			
Central,	53,280	228	233.6
Mammoth shaft,	135,000	256	537.3
Mammoth slope,			
Mutual No. 2,	16,000	83	429.8
Mutual No. 3,	19,680	.....	.....
Monastery,	40,320	120	336.0
Standard shaft,	143,000	424	337.2
Standard slope,	46,800	94	497.8
United,	71,100	167	425.7
Calumet,	49,020	146	335.6
Totals and average,	574,200	1,518	378.2
S. W. Connellsville Coke Co.			
No. 1 "A,"	96,320	324	556.5
No. 1 "B,"	84,000	.....	.....
No. 2,	94,080	124	758.7
No. 3,	47,180	130	362.9
No. 4,	48,720	75	649.6
Totals and average,	370,300	653	567.0
N. Y. and Cleveland Gas Coal Co.			
Plum Creek,	58,500	264	221.5
Sandy Creek,	42,740	236	181.1
Pleasant Valley,	21,450	148	144.9
Oak Hill No. 4,	58,400	377	154.9
Oak Hill No. 5,	32,500	135	240.7
Totals and average,	213,590	1,150	185.7
Westmoreland Coal Co.			
Westmoreland Shaft,	102,800	299	343.8
Larimer,	66,200	475	139.3
Export,	56,000	332	168.6
Totals and average,	225,000	1,106	203.4
Penn Gas Coal Co.			
Coal Run,	30,200	114	264.9
No. 1,	44,900	210	213.8
No. 2,	72,800	310	234.8
No. 4,	38,700	152	254.6
Totals and average,	186,600	790	236.2
The Hecla Coke Co.			
Hecla No. 1,	56,000	145	386.2
Hecla No. 2,	73,280	239	306.6
Totals and average,	129,280	384	336.2
Hostetter Connellsville Coke Co.			
Whitney,	58,800	163	360.7
Hostetter,	54,120	161	336.1
Totals and average,	112,920	324	348.5
Loyalhanna Coal and Coke Co.			
Loyalhanna No. 1,	66,340	209	249.9
Loyalhanna No. 2,	.....	57	.....
Pandora,	30,800	183	168.3
Totals and average,	97,140	449	216.3
Bessemer Coke Co.			
Humphreys,	17,640	61	289.1
Saint Clair,	34,100	85	401.1
Empire,	8,640	46	187.8
Totals and average,	60,380	192	314.3

TABLE H—Continued.

Names of Mines.	Cubic feet of air per minute in circulation.	Number of persons employed inside.	Cubic feet of air per minute for each person employed.
Greensburg Coal Co.			
Greensburg No. 1,	41,600	77	540.2
Greensburg No. 2,	18,500	68	272.0
Totals and average,	60,100	145	414.4
Jamison Coal and Coke Co.			
Jamison No. 1,	28,800	74	389.2
Jamison No. 2,	13,300	55	242.0
Totals and average,	42,100	129	326.3
Atlantic Crushed Coke Co.			
Atlantic No. 1,	18,750	52	360.5
Atlantic No. 2,	14,400	20	720.0
Totals and average,	33,150	72	460.4
Burrell Coal Co.			
Burrell No. 1,	16,800	33	509.0
Burrell No. 2,	16,000	15	1,066.6
Totals and average,	32,800	48	683.3
McCreary Coke Co.			
Graceton No. 2,	33,800	69	490.1
American Coke Co.			
Puritan,	77,000	296	260.1
Ocean Coal Co.			
Ocean No. 1,	162,500	281	578.2
Sewickley Gas Coal Co.			
Madison,	44,800	242	185.1
Carbon Coal Co.			
Carbon,	60,120	177	339.6
Alexandria Coal Co.			
Alexandria,	62,400	206	302.9
Arona Gas Coal Co.			
Arona,	50,400	234	215.3
American Steel Hoop Co.			
Isabella,	28,800	120	240.0
Derry Coal and Coke Co.			
Derry shaft,	60,000	200	300.0
Hempfield Coal Co.			
Hempfield,	32,000	124	258.0
Latrobe Coal Co.			
Latrobe,	43,000	194	216.4
Claridge Gas Coal Co.			
Claridge,	50,400	210	240.0
Manor Gas Coal Co.			
Denmark,	54,150	137	395.2
Corey Coal Co.			
Duquesne,	30,250	203	149.0
Millwood Coal and Coke Co.			
Millwood shaft,	23,120	116	199.3
J. A. Strickler Coke Co., Ltd.			
Strickler,	28,800	48	600.0
Spring Hill Gas Coal Co.			
Spring Hill,	60,200	113	532.7

TABLE H—Continued.

Names of Mines.	Cubic feet of air per minute in circulation.	Number of persons employed inside.	Cubic feet of air per minute for each person employed.
M. Saxman, Jr., & Co.			
M. Saxman,	21,600	64	337.5
Blairsville Coke Co., Ltd.			
Graff,	6,900	28	246.4
Maher Coal and Coke Co.			
Maher No. 2,	10,500	34	308.8
The Ligonier Coal Co.			
S. H. Smith,	14,680	40	367.0
Robert Smith.			
Smith,	17,900	52	344.2
Braeburn Steel Co.			
Braeburn,	5,040	20	252.0
Standard Connellsville Coke Co.			
Marguerite,	13,500	66	204.5
Indiana Coal Co.			
Mitchell,	9,000	28	321.4
Bolivar Coal and Coke Co.			
Lockport,	8,400	15	560.0
Penn Manor Shaft Co.			
Penn Manor Shaft,	21,280	73	291.5
Weinman Bros.			
Weinman,	3,200	17	188.2
G. Vogele.			
Ocean,*	.....	12	.....
W. J. Rainey.			
Acme,†	5,600	71	78.9
Hampton Coal Co.			
Hampton,	10,920	102	107.0

*Not under the law on last visit; furnace closed owing to a dispute between operator and land owner. (Six persons employed inside.)

†Only 25 persons employed inside on last visit, a ventilating fan has since been put in operation.

The Duties of Mine Inspectors with Regard to Visiting Each Mine Once Every Three Months.

An act "relating to Bituminous coal mines and providing for the lives, health, safety and welfare of persons employed therein," was passed by the Legislature and approved by the Governor May 15, 1893.

This act was prepared by a committee or commission, and it was no doubt their intention to make the law such as to insure the greatest safety to life and property, and at the same time make it reasonable in all its provisions.

Section II of Article 10 of this act states in part as follows: "Each Inspector of Bituminous coal mines shall devote the whole of his time to the duties of his office. It shall be his duty to examine each mine in his district as often as possible, but a longer period of time than three months shall not elapse between said examination," etc.

The act referred to, defines very clearly the duties of a mine Inspector, which are not by any means few in number, all of which require more or less time and attention, and are so worded in the act as to make each very positive, and while I do not wish to find fault with the law as a whole, I desire to make a few remarks, and at the same time give my opinion on the first three clauses of Section II of Article 10.

1st:—"Each Inspector of Bituminous coal mines shall devote the whole of his time to the duties of his office." 2d. "It shall be his duty to examine each mine in his district as often as possible." These duties are not onerous, and are nothing more than any reasonable person should expect. But the 3d clause which is as follows: "but a longer period of time than three months shall not elapse between said examination." This is certainly out of reason and should not have been embodied in the law. Neither was it the intention of the committee or board of commissioners, who framed the act, as they did not embody it in the original copy of the law. This matter was thoroughly discussed by the original framers of the act who were men well versed in mining, who decided that it would be improper to designate by law the number of visits the Inspectors should make to each mine, as they well knew that some mines at particular periods need much more attention than others. They undoubtedly knew better than the law makers at Harrisburg what the duties of the Inspectors should be. They decided that each Inspector should be guided in the performance of his duties by circumstances, and act accordingly. Yet some one at Harrisburg, who was able to wield the strong arm of influence, to please a few, amended the section by adding the words "but a longer period of time than three months shall not elapse between said examination," as a very wise proviso indeed, which became a law—a real panacea which would compel the Inspectors to

do their duty. Very few of the Representatives had any idea of the duties of mine Inspectors; therefore, they depended upon a few members from the counties and their personal friends for their information, and thus were led into error. I doubt, were the number of Inspectors considerably increased, whether a visit to each mine in the districts "every three months" could always be made without neglecting other and more important duties. Besides its impracticability, a visit to each mine "every three months," is not a necessity, as the law does not mean that the Inspector shall act as superintendent or mine foreman, but rather to see to the general condition and safety of the mines.

As one of the Inspectors, I can say (and I believe others can say as much) that I am making an effort to carry out the provisions of the law, by giving all of my time to the duties of the office. I examine every mine as often as my other duties will permit, etc., but do not examine all of them "every three months." Yet I examine some oftener than others.

By the light of past experience I am led to believe that the words "but a longer period of time than three months shall not elapse between said examination" should be stricken out of the law.

During the year 1899 there were seventy-six mines in operation in the district in several of which the underground workings are very extensive and employ a great number of persons, and therefore required from two to four days to make an inspection. Some mines were visited more frequently than others, I having spent as many as nine days during the year in some. This takes time, as he has other duties which he must attend to, such as investigating serious and fatal accidents, attending inquests, attending court as a witness very often and sometimes as plaintiff, obey calls of other Inspectors, office work and many other matters which those not thoroughly acquainted with the office fail to have a knowledge of, and I do not hesitate to say that it is a physical impossibility in the Second Bituminous district for the Inspector to comply with the part of the law referred to. I would therefore suggest that either the districts be made smaller and more Inspectors appointed or that part of the law be repealed, as under existing circumstances it cannot be complied with.

Electricity and Compressed Air as Now Used in the Mines, and their Comparative Degrees of Safety to Employes.

Coal cutting machines operated by electricity and compressed air are gradually taking the place of miners.

The mule, which has been used so long for hauling, is being very generally supplanted by the electric motor and compressed air locomotive. In these days of active competition, greater economies and improved appliances for cheapening the mining of coal have been

absolutely essential to profitable mining. Operators in new fields have felt the necessity of installing the most approved machinery for mining and hauling. This has been necessary in order to profitably continue the business.

Both of the motive powers mentioned are being introduced into the mines, and each appears to be satisfactory for the purpose of which it was intended, and both will be used, no doubt, for some time at least, and while they reduce the cost of operating and increase the profits, the dangers which are to be encountered by their use must not be lost sight of. Both of these powers are successfully used on the surface as well as in the mines, yet accidents have occurred from them on the surface, notwithstanding the superior space and light as compared with the narrow passageways and dark chambers of the mines.

The conditions confronting the miner at work, and in going to and returning therefrom are quite different from the conditions on the surface. The light is limited to the glare of the lamp he carries. The atmosphere is often very impure and fire damp and gasses are encountered.

In addition to these conditions there has been introduced into the mines an additional element of danger in the way of different systems of haulage. In fact a general system of underground railroads has been established and large numbers of electric, telephone and signal wires often follow these roads. In fact everything which tends to make up a complete system of railroads in our large cities and towns is found in many of the mines of the present day. Coal is being delivered from the workings over these roads by either electric motor, compressed air locomotives or the cable system. We must not forget the honest and faithful mule, which but a few years ago was the most prominent factor for the underground transportation of coal, but he is now considered one of the old powers, and he is gradually stepping down and out, in order to be supplanted by more modern means, so that we can now hear the shrill whistle of the locomotive, the ringing gong of the electric motor or the whirring noise of the shieves and rollers, the same as is seen and heard on the busy streets of the large cities and towns.

The miner has not the light of day to depend upon, but must look to the light of his small lamp, neither has he the space to escape from the danger surrounding him.

Assuming that there is danger in the use of both electricity and compressed air, the question which naturally arises would be: Which of these methods is safest for the employe, and (keeping in view economy) which method is the most economical and profitable to the employer.

The use of electricity is becoming more general, and it is manu-

factured or produced by electric plants erected on the surface outside of the mines, from which the power is supplied to all parts of the mine by means of wires strung or placed in the passages and roadways in the mines, on which the miners have to travel to and from their work, and on the main roads where motors are used for hauling the coal an overhead trolley wire is required, which is, by reason of the limited space, within reach of almost any one, but which is harmless so long as there is no contact with the wire. Danger, however, arises in case of a trip of cars becoming derailed, for miners and laborers are at once brought to the scene for the purpose of placing the trip again upon the tracks, and as a rule all persons are in a hurry to accomplish this in order to keep the operations of the mine moving, which is very important in the management of a mine. During this activity, the miner or laborer accidently comes in contact with the wire and the result is a severe shock or probably death. Cases are on record where death was caused as above stated, and in one instance the wire carried only 250 volts.

In cases of this kind, men are usually at work along the trip, especially if there are many cars derailed, and should any piece of iron which connects to the main drawbar of the cars, come in contact with the wire the entire trip becomes suddenly charged by the electric current and all persons who touch the cars are surprised by a severe shock. The same can be said of all roads over which coal is hauled where electric wires are in use, either for the purpose of haulage or the driving of mining machines, besides, a man in traveling along the roadways, either in entries or rooms is liable to meet a trip, or hear the roof give way; in either case he must get out of the way very quickly, and in so doing is likely to come in contact with the wires and receive a shock. A shock may also cause a man to fall without directly injuring him. Should this occur in front of a moving trip before he recovers, the trip of cars passes over him. Who is to blame for such accidents?

In regard to the liability of the spark produced by the rupture of a cable to ignite any gas that might be in the vicinity, some writers claim there is little if any danger. No accidents of this kind have as yet happened to my knowledge, yet this as a possible source of danger should not be overlooked.

One of the features of electricity is the enormous heat that can be concentrated in a small space, this energy being displayed when a short circuit occurs, or an arc formed by the rupture of a cable, thus the danger of fire is another contingency to be guarded against. In fact there are many ways for accidents to occur where the wires are in use, as it is almost impossible to arrange them so as to keep them out of reach, especially in low seams. This may be overcome to some extent in high seams if care is taken in putting up the wires, but even

then there is danger to be guarded against from the wires becoming broken and falling on the roadways, which is likely to occur in either case.

It is the opinion of the writer that if it is the intention of those interested in mining to reduce accidents in the mines to a minimum, it will certainly be necessary to exclude all electric wires from the mines which carry a dangerous voltage, or so arrange them that persons cannot come in contact with them, which would be a very difficult matter.

Having enumerated a few of the conditions under which accidents are liable to occur in mines where the electric power is in use, I will now call attention to compressed air as applied to mining for the same purpose.

Ever since the introduction of compressed air as a means for mine haulage, also the operating of coal cutting machines, it places in the field a lively competitor to electricity.

An air compressing plant is a valuable equipment to a mine, and it is certainly a very healthful agent of power, inasmuch as it does not give off either heat or sparks, and the danger to persons employed is considerably reduced and the progress of all work is directly under the eye of the engineer.

An idea that seems to be well established among mining people is that compressed air assists the ventilation. This idea to a very small extent is very well, but a fact that should be borne in mind is, that in order to produce good mine ventilation, there must be a constant current, which requires a separate power for that purpose.

A very praiseworthy feature of compressed air haulage is that the locomotive can be taken any where, even if there be no previous preparation made, as all that is required is enough room for it.

The main pipes through which the air is carried from the plant on the surface to the charging stations in the mines are laid along roadways and are not to be dreaded by the miner as much as an electric wire. The same may be said with reference to other roadways where pipes are laid to carry the power up to the face to operate mining machines. We must not, however, lose sight of the fact that there is a possible danger from the bursting of pipes, but the writer has not learned of any accidents from this cause in the mines.

In summing up a few of the advantages and disadvantages of these two powers as applied to mining, the writer is of the opinion that compressed air is far in advance of electricity, when the dangers attending the use of both are carefully considered, which is a matter of vast importance to all engaged and interested in mining, and who desire accidents reduced to a minimum.

In regard to differences in the cost of installing an electric or compressed air plant and the keeping up of the same, the writer has not

had an opportunity to receive or collect sufficient data to make an estimate on either, but from careful observation at the different plants, I fail to see wherein an electric plant can be operated and kept in repair at a less cost than a compressed air plant.

Descriptions of Fatal Accidents which Occurred During the Year 1899.

John Kadlubjak, an Austrian miner, was so seriously injured in Export mine about 2 o'clock P. M., January 12, by a fall of slate that death resulted the same evening.

He was at work in room 20 off 18 parallel entry, and was "bearing in" when the fall occurred. John Malefko who worked with him at the time, stated at the investigation that the both examined the slate shortly before the accident and considered it safe.

John Demmer, a German miner, was so seriously injured January 16 in Carbon mine by a fall of roof that death resulted about one hour afterwards. He was at work on room pillar 18 off 9 entry, drawing timber, at the time of the accident. The coroner held an inquest and a verdict of accidental death was rendered.

William Robison, an American, a driver, was instantly killed January 25, by his head having been caught between two wagons in Loyalhanna No. 1 mine. He was at his regular work on No. 10 entry and had brought a wagon from 55 room and left it standing on the entry. He then went into 57 room for a wagon and on returning with the wagon it is believed that he attempted to couple it while it was in motion to the one standing on the entry, and in so doing was caught.

A. Freidly, a German miner, was so seriously injured January 30, in Maher No. 2 mine by a fall of slate that death resulted about six hours after. He was at work in room 32 off 5 entry, and was mining when he heard the roof working and attempted to run away, but was caught by the slate.

Frank Abel, American, a driver, was so seriously injured February 6 in Oak Hill No. 4 mine by being thrown from a trip of wagons that death resulted while he was being taken home.

This accident occurred as follows: John Hall, John Brisbin and Frank Abel, all regular drivers employed in the Oak Hill mine No. 4, were engaged by the mine foreman to clean out a drain on 2d No. 5 entry, after their regular days work was done. Each one of them was to load one wagon out of the drain at a point about 1,000 feet from the bottom of the entry. After the wagons were loaded and coupled together they concluded to run them to the main parting so that they might ride, the distance being about 2,000 feet, and the first 1,000 feet being down grade at the rate of about 1.4 to the 100 feet. According to the evidence of Hall and Brisban, Abel proposed

that they trim their lamps before starting in order to have a good light. This being done they started the three wagons down the entry coupled together, John Brisbin being on the first coupling between the first and second wagons, Frank Abel on second coupling between second and third wagons and John Hall on the rear end of the third and last wagon. No spraggs were used, according to their agreement, in coming down the 1,000 feet of grade, thinking that the wagons would attain sufficient speed to carry them over the last 1,000 feet, which was partly up grade, before they reached the main parting. When the wagons reached the curve at the bottom of the entry, which is also at the foot of the grade the rear wagon left the track, which was no doubt the cause of Abel having been thrown from the trip, as he was found near this point by Brisbin and Hall after they stopped the trip.

It was certainly an oversight on the part of all concerned to come down the entry without using spraggs. Brisbin and Hall admitted that they had all three made a mistake, but did not see it until after it was too late.

An inquest was held and the following verdict was rendered by the coroner's jury: "The jury find that the deceased came to his death on Monday, February 6, 1899, at Oak Hill mine No. 4, and find that the cause of his death was accidental and was due to negligence of the three men of which the decedent was one.

William Farquhar, a Scotch miner, on February 9, was so badly injured by a fall of slate in the Westmoreland shaft mine, that death resulted some seven hours afterwards.

Farquhar was engaged in drawing room piller 40 off 40 entry and at the time the accident occurred was drawing a slate post, when a piece of slate fell crushing his arm and leg and causing his death.

Earnest Jubin, an engineer, a Welshman, was instantly killed February 20, by being caught between the end of the drum and engine bed in Mammoth shaft mine. It is not positively known how he was caught as no one was present at the time.

Jubin was employed as engineer and was in charge of the engines which are located in the mine near the shaft bottom. He had landed a loaded trip at the bottom and for some unknown cause left the levers and went around to the end of the drum. This drum hangs loose on the shaft, being thrown out of gear after the loaded trip is landed. This is done in order to allow it to turn while the empty trip which is coupled to the rope running from this drum is being pully over a knuckle on the opposite side of the shaft by a small engine located near the empty track for that purpose.

This engine was in charge of Peter Stewart, who started is as usual, and was pulling up the empty trip. This caused the drum of the large engines to turn; soon the trip stopped and the small engine could put

it no farther, and Charles E. Struble, the trip rider, went into the engine house to see what was wrong and found Jubin in the position above stated.

Joseph Periper, an Austrian, a loader after machines, was instantly killed in Export mine, March 20, by a fall of slate. Periper left a wife and five children in his native country.

Andrew Johnson, a Swede miner boy, was so seriously injured at Alexandria mine by a fall of horseback slate on April 7, that death resulted on the following day.

John Lockyer, an American machinist, on May 5, was instantly killed by an explosion of gasoline at the Alexandria mine. The pump which raised the water from this mine was operated by a gasoline engine, which being out of order on May 4, failed to operate the pump at sufficient speed to remove the water, thereby allowing it rise in the mine. It soon became evident that it was necessary to move the pump and engine in order to prevent them from being covered by water.

On the evening of May 4 the pump was moved up the entry about 200 feet. The engine was also moved about 35 feet up the entry. On the following day, May 5, the mine foreman in company with others was at work preparing to move the engine farther back, as the water was still rising. The gasoline that remained in the tank was transferred to a barrel about 11 o'clock A. M. About 11.40 those engaged at the work went to dinner. Charles Brown, Philip Duke, Patrick Gray and Andrew Lagnoska were sitting on the entry about 500 feet above the engine, having just finished their dinner. Lockyer passed them about 12.40 o'clock P. M. with an open light on his head and carrying a sack which contained a lot of tools, on his way to the engine for the purpose of removing two large wheels which prevented it from passing up the entry. Brown stated that about 20 minutes after Lockyer passed them, they heard the report of an explosion, and on looking down the entry saw fire. He at once rushed down the entry and found Lockyer lying on his face in water about six or seven inches deep. His tools were found on the engine which showed that he had been down to the engine and was returning up the entry.

The supposition of those familiar with the occurrence was that a small quantity of gasoline had been spilled on the water while it was being transferred from the tank to the barrel, and that a spark falling from Lockyer's lamp came in contact with it on the water causing the explosion.

After a careful examination of the place where the accident occurred, I was of the opinion that the supposition was correct. An inquest was held and the following verdict was rendered: "John Lockyer came to his death by an explosion of gas in the Alexandria Coal Company's mine at Crab Tree the 5th day of May, 1899. We be-

lieve that the deceased was careless in going into the place in which he was killed with an open light. The company is not responsible and is hereby exonerated."

Andy Lash, a Slav miner, was instantly killed May 13, by a fall of "horseback" slate and roof in Loyalhanna No. 1 mine.

Eli Williams, an American miner, was so seriously injured May 23, in Central mine by a fall of slate that death resulted about ten hours after.

James McClain, Irish, a loader after machines at Export mine, was fatally injured June 26, by being struck by a post while he was drawing it from under the slate. He was removed to the Westmoreland Hospital at Greensburg, for treatment, where death resulted two days afterwards.

Thomas W. Jenkins, a Welsh miner, was so seriously injured July 14 by a fall of slate in Oak Hill No. 4 mine, that death resulted six days after.

Joseph Lissey, a Bohemian miner, was so badly injured by a fall of coal and slate in Plum Creek mine on August 24, that death resulted about three hours after.

Ignats Slosser, an Austrian miner, was instantly killed by a fall of roof while drawing timber in South West No. 3 mine, on August 24.

James Dumigan, American, employed as a roadman at the Duquesne mine, was instantly killed Sept. 21, by falling from a trestle outside the mine.

Eugene Hoag, a German, employed as a miner at the Derry shaft mine, was so seriously injured by a fall of roof September 23, that death resulted about three house after. At the time the accident occurred Hoag was engaged in drawing a post on No. 3 room pillar off 14 entry.

On September 23, Antonio Lorisa, an Italian, a loader, after machines, was so seriously injured by a fall of slate in the Westmoreland shaft mine that death resulted some two hours after.

At Arona mine, on September 28, Lemuel Young, an American miner, was instantly killed by a fall of slate while at work in No. 4 entry of main G. entry.

James Larew, an American driver, aged 26 years, was instantly killed October 6, at the Loyalhanna No. 1 mine, by being caught and crushed between a wagon and coal pillar.

Antonia Vieceli, Italian, a loader after machines, was fatally injured at Westmoreland shaft mine on October 14, by coal flying from a shot which blew through the pillar from an adjoining room.

Stephen Petanoff, on October 24, at the Westmoreland shaft mine, a loader after machines, a Russian, was instantly killed by a fall of slate while at work in No. 23 room off 48 entry.

John Lea, a Slavish miner, was instantly killed October 27, at Central mine by being run over by a trip of loaded wagons on the main haulage road. He was traveling the main haulage road on his way out, instead of the regular traveling way, when killed.

Louis Bassino, on November 9, at the Ocean No. 1 mine, was so seriously injured by a wagon running over him that he died five days thereafter. He was an Italian.

Mark Wright, an American miner at Sandy Creek mine, was so seriously injured by a fall of slate on November 13, that death resulted six days thereafter.

Louis Spesak, a Hungarian miner, was instantly killed November 15, in the Hecla No. 2 mine by a fall of roof coal. He had been warned of the danger by the mine foreman the day before, and also by a fellow miner, who worked near by, shortly before the accident.

John Peaceski, a Polish miner, was killed in the Claridge mine, November 17, by a fall of coal.

Paul Botsie, A Slavish miner, was killed at Jamison No. 1 mine on November 17 by a fall of coal.

John Rodashick, an Austrian miner, employed at the Duquesne mine, was killed by a fall of slate December 2.

Antonio Narretts, at Larimer No. 4 mine on December 9, was fatally injured by a fall of slate. Narretts left a wife and four children. He was an Italian.

Cornelius Buckley, a roadman, was killed December 11, in the Standard No. 2 mine by a fall of slate.

Patrick L. Kiern, a driver, in the Sandy Creek mine, was killed December 13, by a loaded wagon running upon him. He was coming down No. 4 entry with a trip of three wagons when the accident occurred. As no one was present at the time, it is not positively known how it happened, but as he was found at the regular stopping place on the entry, it was supposed that in getting off the front wagon he slipped and fell on the road and before he could recover, the two rear wagons forced the front wagon upon him.

Andy Kolloick, a Slavish miner, was killed by a fall of "horseback" roof on December 16, while at work in the Marguerite mine.

David Clark, an American, employed as driver in Oak Hill No. 5 mine, was so seriously injured on December 11, by falling in front of a loaded wagon that death resulted six days afterwards.

Jacob Hails, Scotch, was employed as rope or trip rider in the Standard No. 2 mine, and was fatally injured December 23, by being struck by an trip of empty wagons as they were going in on C. landing.

Description of Mines and Mine Improvements.

Mines on and Near the River Division of the Allegheny Valley Railroad.

Lucesco.—Idle the entire year.

Braeburn.—The condition of this mine was reasonably good. During the month of November a ventilating fan four feet in diameter, of the Capell type, was installed and put in operation. The fan is driven by electricity and is certainly giving satisfaction, as I was informed by the mine foreman that when it was first put in operation the velocity of the air current was too great, and that it was necessary to put a larger pulley on the fan shaft to reduce the speed.

Plum Creek. On each visit this mine was found in fair condition, both as to ventialtion and drainage.

Sandy Creek.—The general condition of this mine has been favorable during the year. A new ventilating furnace has been erected with an area of 42 square feet.

Oak Hill No. 5.—This is a new drift opening into the Pittsburg seam, located four miles north of Turtle Creek on the line of the P. B. & L. E. R. R., and was found in good condition on each visit.

Mines on and Near the Pittsburg Division of the Pennsylvania Railroad.

Weinman.—Is a small mine employing on my last visit only seven persons inside. The product goes to supply local trade.

Ocean.—Is a small mine which employed fewer than ten persons inside until about the close of the year, when the increase in demand for local trade, for which the product of the mine is used, caused the number of persons employed inside to be increased to twelve.

Hampton.—Was in fair condition when last inspected. The mine ceased operations during the month of September. I have since been informed that the company has sold the property.

Duquesne.—The condition of this mine has been very favorable during the year. The ventilation has been somewhat improved by enlarging the area of the main airway leading to the furnace.

Spring Hill.—Has been kept in reasonably good condition both as to ventilation and drainage.

Oak Hill No. 4.—The ventilation and drainage of this mine were found in good condition on each visit.

Larimer No. 4.—When last inspected I found the ventilation very unsatisfactory. The velocity of the air current at or near the face of several entries was not sufficient to turn the anemometer. The offi-

cials were aware of this condition, as they were about to commence work with a view of improving the same, but whether the plan adopted will prove a success or not remains to be seen. I have since been informed that the quantity of air in circulation has been increased.

Mining machines of the chain cutter type were introduced into this mine during the latter part of the year. They are driven by electricity, the power being furnished from the electric plant near Manor, about six miles from the mine. This is a large mine, being one of the largest in production in the district. The total output of coal for the year was 429,709 tons.

May 13, 1899, I notified A. N. Humphreys, general sperintendent of the Westmoreland Coal Company, to have every working place, without exception, and all road-ways in this mine carefully examined and inspected by a person or persons who should have received a fire-boss certificate. Such examination to be made at the time, and in strict conformity with the provisions of section 2, article 5 of the Act of Assembly, approved May 15, 1894, P. L. 52, etc. I notified him of this in writing, and also stated that I had arrived at this conclusion after carefully considering all the circumstances in connection with the mine.

From this the company took an appeal, which was filed in the court of quarter sessions of Westmoreland county on the 20th of May, 1899, at No. 5 May term, 1899, civil list, which matter was by order placed on the argument list for June 5, 1899, at which time I appeared and produced testimony.

As shown by the testimony, I believed that there was no serious danger to be apprehended from the part of the mine which lies to the west of main entry, but the law did not seem to be such that it would relieve the company from the examination required, and in order to have the matter properly brought before the court and decision made, notice was given and the decree of the court was made, sustaining my decision as to that part of the mine lying on the east side of the main entry, and relieving the company from such examination and inspection of that part of the mine lying west of main entry.

Greensburg, Westmoreland Co., Pa., May 13, 1899.

A. N. Humphreys, Esq.,
Gen. Supt. Westmoreland Coal Company:

TAKE NOTICE.

You are hereby notified to have every working place, without exception, and all roadways in your Larimer mine, located at or near the terminus of a branch road leading from Larimer Station on the line of the P. R. R., carefully examined and inspected by a person or

persons who shall have received a fire-boss certificate; such examination to be made at the time and in strict conformity with the provisions of Section 2, Article 5 of the act of Assembly, approved May 15, 1893, P. L. 52, &c.

My decision in this matter is made after carefully considering all of the facts and circumstances in connection with your Larimer mine, and notice is accordingly given.

C. B. ROSS,
Mine Inspector, 2d Bit. Dist.

IN THE COURT OF QUARTER SESSIONS OF WESTMORELAND COUNTY.

In re Appeal of Westmoreland Coal Company from the decision of C. B. Ross, Mine Inspector, Second Bituminous Dis.

And now, May 20, 1899, comes the Westmoreland Coal Company, by A. N. Humphreys, its Agent and General Superintendent, and, being aggrieved by the decision of the said C. B. Ross, Mine Inspector, as aforesaid, appeals from the said decision to the court of quarter sessions of Westmoreland county, as by act of Assembly is in such case made and provided.

A. N. HUMPHREYS,
Agent and Gen. Supt. Westmoreland Coal Company.

Westmoreland county, ss:

A. N. Humphreys, Agent and General Superintendent of the Westmoreland Coal Company, appellant above named, being duly sworn, says the above stated appeal is not taken for delay, but because he verily believes injustice has been done the appellant.

A. N. HUMPHREYS,
Agt. and Gen. Supt. Westmoreland Coal Company.

Sworn to and subscribed before me this 20th day of May, A. D. 1899.

CHESTER D. SENSENICH,
Clerk.

In Re Appeal of Westmoreland Coal Company from decision of C. B. Ross, Mine Inspector. In the Court of Quarter Sessions of Westmoreland County, Pennsylvania. (Civil List). No. 5 May Term, 1899.

And now, June 10, 1899, this case came on for hearing before his Honor, Alexander D. McConnell, J.

Appearances:

Jno. E. Kunkel, Esq., of Messrs. Robbins & Kunkle for the Mine Inspector.

Messrs. Gaither & Woods for the Westmoreland Coal Company.

Chauncey B. Ross sworn, direct ex. Mr. Kunkel:

Q. Where do you live, Mr. Ross?

A. I live here in Greensburg.

Q. What is your official position?

A. Mine Inspector.

Q. Of what district?

A. Second Bituminous.

Q. State whether your district includes the Larimer mine that is mentioned in this notice?

A. Yes, sir; it does.

Q. State where this mine is located?

A. Well, it is located at or near the terminus of the branch leading from Larimer Station on the main line west of here.

Q. It is on the main line of the Pennsylvania Railroad?

A. Yes, sir; a branch line leads from the main line to this mine.

Q. I might ask you when you came into your present position?

A. 15th of May, 1897.

Q. State in the discharge of your duties whether you visit this mine?

A. Yes, sir.

Q. On those visits with respect to explosive gas or fire damp, what did you find; just state fully to the court?

A. Well, I never found any explosive gas in the mine at any of those visits that could be detected with a safety lamp, that is in sufficiently large quantities to be detected with a safety lamp; I never found any on any of my visits.

Q. You I believe, however, give Mr. Humphreys this decision that has been read to the court, which is filed here?

A. Yes, sir.

Q. State upon what this decision is based?

A. Well, that decision is based on the law, and on advice of the State Department of Mines and Mining, and my attorneys, after consulting with them.

Q. How did you ascertain or have you ascertained in any way that explosive gas, fire damp, has been generated in this mine?

A. Well, it has been generated or detected with a lamp I believe once since I have been Inspector. Well, there is a record book that shows that it has been, a record of that.

Q. What kind of a book is that?

A. That is a book furnished by the State to the Inspector and he furnishes the mine with that book and the Fire Boss makes his report on that book every morning of the different mines and puts his signature to that report. There is a record on that book over his signature showing that he has found fire damp there, and I was also in-

formed by him and the assistant mine foreman, Mr. McClain, that it had been found. I want to state one thing. Mr. McClain didn't tell me he found it, but he informed me on a visit there, after this fire boss had found it and the fire boss told me the same.

Q. This book that you speak of is kept permanently at the mine, is it?

A. Yes, sir; at the mine office.

Q. For your inspection I believe?

A. Yes, sir.

Q. Can you tell the date that this fire damp was found?

A. That book is here; that will give that. I can produce the book.

A. State how many men are employed in this mine?

A. Well, now; I don't believe I could just positively state the number; but as near as I can recollect on my visits there, I found they varied something over 500 persons, men and boys, and never less than 400; considerably over 400 was the lowest at any visit, as near as I can recollect now.

Q. When were you there on your last visit?

A. I was there yesterday and the day before and on a regular visit. May 9th and 10th, 1899, was the last visit until yesterday and the day before; I was there then.

Q. State whether or not this section of the act of Assembly with regard to the inspection, whether that is carried out or not?

A. Which part?

Q. That is, whether all the working parts of the mine are inspected as required by Section 2 of Article 5 of the act of May 15, 1893?

A. That is, are they all examined by fire bosses?

Q. Yes?

A. No, sir; they are not.

Q. Is there any fire boss employed at the mine?

A. One.

Q. Do you know what part of the mine is inspected by him, if any?

A. Only what he has told me he has inspected; I only know from what he told me what parts he inspected.

Q. What is this book, Mr. Ross? (Book shown witness).

A. Fire Boss's daily report of Larimer mine in District No. 2 of the bituminous coal regions of Pennsylvania as required by act of Assembly approved May 15th, 1893.

Q. Upon your visit to this mine and an examination of the book what did you find on this report with respect to explosive gases being found in the mine?

A. I found where there was a record there—

Q. Give the dates and the places where you found, where you discovered from this book that fact?

A. March 11, 1895, "in drain entry No. 2 off 7th parallel East."

Q. You found explosive gas there?

A. I did not.

Q. The book shows that?

A. The book shows that it has been found there. John Carr's signature is there as mine foreman; again it is signed by John Carr as fire boss and again it is signed by John Williams, mine foreman. March 12th explosive gas was found in drain No. 2 off 7th parallel East; that is the same place. March 15th it was found in drain entry No. 1 off 7th parallel East. On the 25th of March it was found in drain entry No. 2 off 7th parallel East.

Q. Those were all in what year?

A. Those were all in 1895. Then May 3d, 1895, found in drain entries Nos. 1 and 2 off 7th parallel East.

Q. Same fire boss and same mine foreman?

A. Same fire boss and same mine foreman I believe. July 7th, 1896, explosive gas found in 9 butt East; John Carr, fire boss, John Williams, mine foreman. July 8th, 1898, explosive gas found in 12 parallel East, John Carr, fire boss, and Williams, mine foreman.

Q. So you gave this notice after carefully considering all the matters and taking counsel upon the matter?

A. Yes, sir.

This ended the direct examination of Mr. Ross, who, however, was subjected to a cross examination by counsel for the mine operators.

Messrs. Callahan and Connor, Inspectors of the Fifth and Ninth Bituminous districts respectively, were called, and their testimony substantiated that of Mr. Ross.

For the operators several witnesses were called in rebuttal. After which the following decree of the court was issued.

Decree of Court.

And now, June 10, 1899, the court after hearing the evidence of the witnesses offered on behalf of the Mine Inspector of the Westmoreland Coal Company, and after due consideration of the same, it is hereby ordered and decreed that the decision of the Mine Inspector, C. B. Ross, be sustained so far as it applies to that part of the Larimer mine which lies on the East side of the main entry, and that the Westmoreland Coal Company are hereby ordered and directed to have the said East side of said mine carefully examined and inspected by a person or persons who shall have received a fire boss certificate. Such examination to be made at the time and in strict conformity with the provisions of Section 2, Article 5 of the act of Assembly, approved May 15, 1893, P. L. 52. Explosion gas or fire damp having been found therein in sufficient quantities to be detected by the ordinary safety lamp.

It is further ordered and directed by the court that said Westmoreland Coal Company are hereby relieved from making any such examination or inspection of that part of Larimer mine which lies to the West of said main entry.

All costs of this proceeding shall be paid by the county.

Per Curiam.

Attest:

Chester D. Sensenich, Clerk.

Penn Gas Coal Company.

The improvements at shaft No. 2 during the year 1899, are as follows:

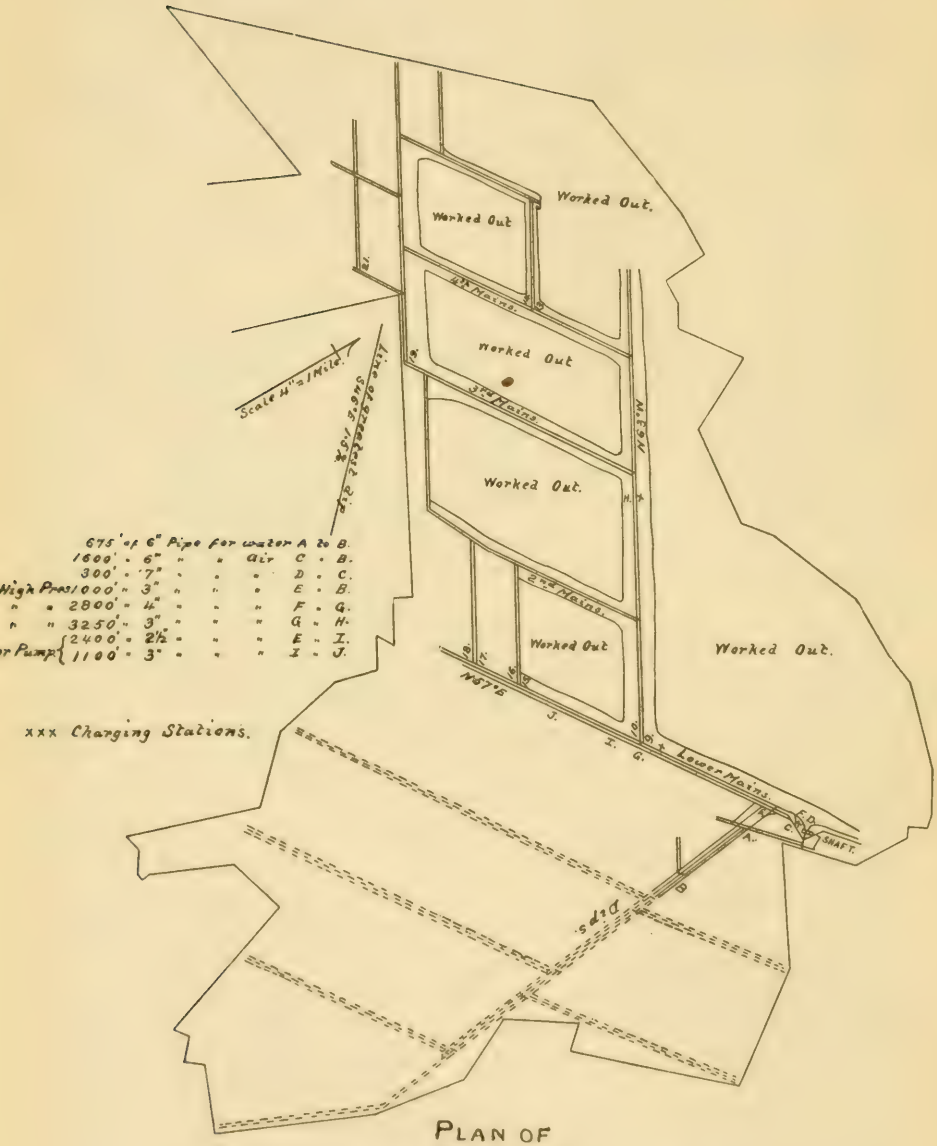
The surface plant consisting of a new engine house, in which are the air compressors, and the new boilers.

The compressors at present installed are of the duplex type and built by the Ingersoll-Sergeant Drill Co. The first erected is the right hand half of their Class G, the other half to be added this year. Capacity and dimensions are a 20-inch steam cylinder, 24¼ inch air cylinder, 24 inch stroke, and when run at 94 revolutions per minute will compress 1,618 cubic feet free air per minute to 100 lbs. per square inch, Nom. H. P. 344, and will supply 6 air chain machines and 1 Howells air drill No. 2.

The second erected is their Class G 4 stage duplex with cross-compound steam cylinder and single acting air cylinder, having a common stroke of 24 inches, dimensions and capacity are at 100 revolutions per minute, 855 cubic feet free air per minute to a pressure of 900 lbs. per square inch, Nom. H. P. 344. This engine weighs 39 tons, and has the necessary outside intercoolers with water jacketed air cylinder on the low pressure side, while the high pressure cylinders are surrounded by a water box of ample dimensions and a couple of smaller intercoolers inside of the water box. This engine is capable of furnishing air to 5 locomotives of the size we now use.

The single and 4 stage are each controlled by a compound governor set to run the engines at the maximum speed of 100 revolutions per minute, and a minimum speed of 20 revolutions per minute, giving quite a large range of regulation, they are also provided with the Meyer adjustable cut-off valve.

The new boilers are the Babcock and Wilcox water tube boilers, vertical header type, and arranged in a battery of two units, battery rated at 604 H. P. Heating surface 6,042 square feet; grate surface 135 square feet; heating surface of each boiler consisting of two steam and water drums 42 inches in diameter and 20 feet 4 inches long, placed above and connected to a set of 16 sections of tubes, each section consisting of 9 tubes 4 inches in diameter and 18 feet long, lower



PLAN OF
SHAFT No 2.,
Penn Gas Coal Company.
SHOWING ROADS ON WHICH COMPRESSED AIR LOCOMOTIVES ARE USED.

ends of sections connected to a mud drum of 12 inches diameter. The boilers are suspended at front and rear from wrought iron supporting frames, entirely independent of the setting, allowing for contraction and expansion without straining either the boiler or the brick work. These boilers are designed to carry a pressure of 160 lbs. with safety.

The boilers have a full set of Dead Bar Chopping and shaking grates furnished by the Reagan Grate Bar Co., Philadelphia.

The chimney is 66 inches in diameter and is 125 feet high above the base, and is built of iron.

The underground improvements are 2 pneumatic locomotives built by the H. K. Porter Co., and are their Class CPP, having 8 by 14 inch cylinder, 6 driving wheels 24 inches diameter, rigid wheel base of 5 feet 3 inches, height above rail 5 feet 3 inches, width 5 feet 10½ inches. One of the motors is connected up with a stop and reducing valve of the diaphragm type, the other with a reducing valve in its experimental stage. These motors are designed to carry a pressure of 700 lbs. per square inch, reduced to a working pressure of 140 lbs., each motor weighs 13½ tons, all on the drivers and capable of developing a tractive force of 4,440 lbs.

The motors were intended to haul a trip of 40 wagons, a gross load of 100 tons. The grades encountered are a maximum of 3 per cent. for 300 feet with an average of 17.10 per cent. on 9 entry in favor of the loads for a distance of 3,600 feet, on the lower mains an average grade of 1 per cent. for 1,000 feet against the loads to start and balance of the distance to shaft of 3,900 feet a grade of half of one per cent. in favor.

The motors will run to the 3d 19 as soon as we get the road in shape for them, here we will have an average grade of 2 per cent. for 3,000 feet against the load.

The high pressure pipe line is 4 inch from the compressors as far as the foot of 9 entry, from there up 10 entry it is a 3 inch line to the charging station, a 3 inch line also branches off at the dip mains and is laid in the return air course, this branch is not yet completed, about 2,200 feet more to lay. The storage capacity of the line when completed will be 590 cubic feet.

The low pressure pipe line is 6 inches and is laid along the lower main and thence down the dip mains, at the junction of the dips with the lower mains a branch of 3 inch pipe is laid which for 17 and 18 entries lower road for mining machines. Both pipe lines are put down bore-holes and cemented in.

Forty pound rail is used in the dip mains and from the shaft along the lower road and up 9 entry, from the foot of 9 entry 30 pound rail is laid along the lower road to 16 entry, and 30 lb. rail will be laid along the 3d mains from 9 entry in. The ties are 4x6.

The turnouts are of 100 ft. radius for the 40 lb. rail, and 50 ft. radius for the 30 lb. rail.

The mining machines used are the Jeffrey air chain machine, and so far have been used in driving the dip mains, and are just now commencing on room work in 17 entry lower road. These machines use about 255 cu. ft. free air per minute when running. The air drills are the Howells No. 2, they use about 84 cubic feet free air per minute.

On the lower road a 3 wire electric signal system has been put up to facilitate handling trains over that section of track.

Standard Shaft No. 2 Improvements.

Noticeable among the improvements made by coke companies during the year 1899 is the building of new mine stables by the H. C. Frick Coke Company in their Standard Shaft No. 2 mine at Mt. Pleasant.

At my request Mr. Robert Ramsey, Superintendent, has furnished me the following description of the stables now under construction.

These stables are constructed entirely of brick, except the floor of the stalls, which will be of wood spiked down to a sill, which is laid in a concrete of stone and cement, and will have a drop of 1½ inches toward rear end of stall. There will be a track (the same guage as the mine track) laid in the main aisle on cast iron ties firmly laid in concrete to be used for the purpose of cleaning the stables and bringing in the feed, etc., and in the aisle in front of the stalls there will be a 24 inch track (laid in the same manner as the other) on which will be placed a small box truck for feeding all the stock. The main aisle has a fall of ½ inch in six feet toward the main dump at shaft, thus affording good drainage.

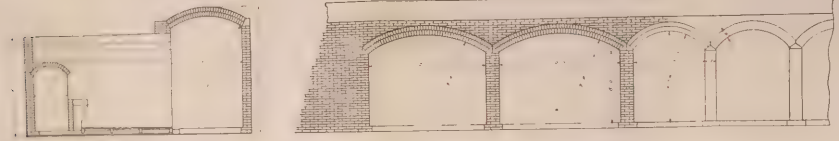
The stables will be completed in about four months, and will have 25 stalls, one box stall, one feed room and one harness room, and will be lighted by electricity.

Another improvement which has been made is an addition to the pumping plant. The south wing of the pump house has been extended and a Yough plunger pump, size 14″x26″x48″ with a cast iron plunger placed in position, in addition to the pumps already there.

Pen Gas Coal Run.—This mine has been in fair condition both as to drainage and ventilation.

Pen Gas No. 1.—The general condition of this mine has been found reasonably good on each visit except the last one, when a number of rooms was found to be rather smoky, owing to blasting being done at all hours of the day.

I suggested to the mine forman that this be prohibited as far as possible. The rooms in some places are being driven on the butts of coal which requires more blasting to bring the coal down than if they were driven on the face.



View of new mine station [illegible] at Standard No 2 Hyde Park Branch Coal Co.

The work of drawing the main entry pillars has been commenced, and it will only be a short time until the daily output will be decreased, owing to the scarcity of working places, caused by the finishing up of the mine.

Westmoreland Shaft.—The ventilation is now in excellent condition. The additional air-ways which were being driven have been finished, and the air current is divided into five different splits. Formerly there were but two splits, and the average quantity of air in circulation through the mine was 58,870 cubic feet per minute, which produced a water guage of 2.2 inches. After the additional air ways were put in use and the current divided into five splits, the average quantity of air in circulation was 113,720 cubic feet per minute, which produced a water guage of 1.7 inches, with the fan running at the same speed. This was an increase of 54,850 cubic feet of air per minute and a decrease in the water guage of .05 of an inch.

The above is certainly worthy of the attention of those interested in mine ventilation, and it also shows what system and method can accomplish. This change also reduced the number of doors in the mine. There is no mine in the district in which a greater percentage of the air produced by the ventilating apparatus is distributed around the roadways and working places than in this mine.

Pleasant Valley.—On my second visit I found considerable black-damp being given off from a portion of the abandoned pillar workings. This was being mixed with the air current on the mine haulage road. I am glad to say that I found those in charge of the mine aware of the fact and doing all in their power under the circumstances to prevent it by building walls of masonry between the main haulage road and the abandoned workings.

On a visit to the mine shortly afterwards, I found the work completed, and it proved to be a success, the roadways being practically clear of impure air, and the condition of the mine throughout was reasonably good.

Hempfield.—The condition of this mine when, last inspected was satisfactory.

Monastery.—The condition of this mine has been fairly good. While the velocity of the air current was not a sweeping one at the face of the different entries it was sufficient to keep the air clear and pure. The use of safety lamps in the mine reduces the quantity of smoke given off from lights, and strong currents of air are not necessary under such circumstances.

Latrobe.—On my last visit I found to be in fairly good condition throughout, except in Nos. 13 and 14 entries, where the ventilating current was rather weak. I was glad to learn, however, that this state of affairs would not continue very long, as changes were being considered which would not only improve the air current on these

entries, but throughout the entire mine. I have since been informed that an opening to the surface has been made at the head of the upper workings, and that it improved the ventilation considerably.

Among the improvements during the year was the sinking of a new shaft near the face of the dip workings, which when completed will be used for a pumping station, also for ventilation. The shaft is 14′ 2″x10′ 3″ inside measurements and 150 feet in depth, timbered with 8″x10″ white oak timber placed 4′ apart and backed with 2″ plank.

It is the intention to divide the shaft into two compartments, one of which will be used for hoisting boiler coal to supply the boilers on the surface, and the other for ventilation, the area of which will be 70 square feet. The pipe lines necessary for the removal of the water from the mine will also be placed in the shaft. The fan producing the ventilation at the present time is located near the mouth of the mine, and the air is forced to the face of the dip workings, a distance of about 7,250 feet, after which it travels almost the same distance back in order to reach the outlet, thereby causing the friction to be very great. The workings near the fan are very shallow and part of the air is necessarily lost through leakage, which it is almost impossible to prevent in such cases.

The fan will be moved from its present location to the new shaft, a distance of 7,250 feet, which will shorten the distance the air travels at the present time, almost one-half. This will reduce the friction, and considerably increase the total volume of air in the mine, and at the same time overcome to a great extent the leakage above referred to. The fan will be made reversible to suit the different conditions that may exist. This change is certainly one in the right direction, and will be both successful and profitable for the purpose for which it is intended, and is well worthy the attention and consideration of those who may be operating mines under similar conditions.

M. Saxman.—About the only fault I have to find with this mine is the means (natural) used for producing ventilation. The system fails to produce a constant current always in one direction, neither does it comply with the law. While it is no doubt cheap, etc., it is not by any means satisfactory, and the officials are aware of the fact. I have called their attention to it at different times, and while they seemed to show a willingness to comply with the law by providing artificial means, I am very sorry to say that they have not as yet remedied the defect. I have been very patient in this matter, but still insist that the law be fully and promptly complied with, unless the defects are promptly remedied.

Loyalhanna Nos. 1 and 2.—The underground workings of these mines are connected and the ventilation for both is produced by the same fan. On my last visit I found the ventilation in No. 1 workings

on the East side satisfactory, but it was somewhat defective in the No. 2 West side workings. However, an additional fan was on the ground and preparations were being made with a view of erecting and operating it at No. 2 opening in order to improve the ventilation. I have since been informed that it has been completed and is now in operation with satisfactory results.

Pandora.—The ventilation of this mine is produced by the same fan which ventilates Loyalhanna No. 1 mine, the underground workings being connected. The conditions, both as to ventilation and drainage were very good.

Derry Shaft.—The condition of this mine throughout was reasonably good on each visit during the year.

Atlantic No. 1.—This mine is being rapidly exhausted. The operations are confined to the extraction of the pillars and stumps, and the number of persons employed is being reduced as the work advances toward the mine mouth. Its condition was fairly good, considering the difficulties that are encountered in finishing up a mine.

Atlantic No. 2.—This is a new slope opening in the Pittsburgh seam of coal and is located near the No. 1 mine. The workings at present are mostly confined to the driving of entries. It is the intention to drive the entries to the boundary line and work the mine on the retreating system.

The second opening consists of a shaft 65 feet deep, which will be divided into two compartments, one will be fitted up with a stairway and used for the purpose of ingress and egress, the other will be used for ventilation. It is the intention to erect a fan at this shaft. The ventilation is now and will be, until the fan is installed, produced by exhaust steam.

The condition of the mine on each visit was very fair.

St. Clair.—Was in fair condition, both as to ventilation and drainage. A new opening has been made to the surface which will be used as a traveling way to and from the mine workings. During the year the workings of this mine were connected with the abandoned pillar workings of the Loyalhanna No. 1 mine.

I suggested to those in charge that locked safety lamps should be used in approaching the abandoned workings, and that every precaution with a view to safety should be taken.

Millwood Shaft.—The condition of this mine, both in regard to ventilation and drainage, has been reasonably good.

Lockport.—This is a small operation in Lower Freeport seam of coal which when last visited was in fair condition.

Export.—Located at the terminus of the Turtle Creek branch of the Pennsylvania Railroad. At this work the company has installed an electric plant, and mining machines of the "Chain cutter" type are now in use and are doing excellent work. The condition in regard to

ventilation was not so good on my last visit as on former ones. I found the lawful quantity of air in circulation at the outlet, but at the face of part of the workings it was rather weak and not sufficient to carry off the powder smoke given off by blasting. Considerable of the coal is undercut by the machines at night. Where this is done the blasting of it down is commenced on the following morning, which causes a large volume of powder smoke to be mixed with the air current in and through the workings, and in order to keep them clear, a much larger volume of air than is in circulation at present will be necessary. The attention of the officials was immediately called to this matter, and they informed me that it would be remedied. I have since been informed that work has been commenced with a view of increasing the volume of air in circulation through the mine.

Mines on and near the Youghiogheny Railroad, which runs from Irwin on the Pennsylvania Railroad to Sewickley, on the Baltimore and Ohio Railroad.

Penn Gas No. 2.—This mine was in fairy good condition during the year. Considerable improvement has been made, among which was the installing of two additional boilers and two large air compressors to furnish additional power which is necessary for the operation of mining machines, which have been introduced during the year. Two compressed air locomotives of twelve tons each are now in use in hauling the coal on the main roads. They are giving great satisfaction and have been the means of dispensing with quite a number of mules. New workings are being opened to the dip side of the mine with a view of increasing the territory, also the output.

Penn Gas No. 4.—But little work has been done at this mine during the year, it having been idle until November, when operations were commenced. On a visit to it afterwards I found the general condition of the mine to be fairly good, both as to ventilation and drainage.

Mines on and near the Manor Branch of the Pennsylvania Railroad.

Claridge.— was in reasonably good condition during the year both as regards ventilation and drainage. New workings are now being opened to the dip, heretofore the workings were all to the rise.

Denmark.—On my third visit I found the ventilation rather weak at the face of part of the workings. On a later visit I am glad to say that I found immediate action had been taken and the ventilation was much improved and the general condition of the mine as well, by replacing many of the wooden brattices with brick, and cleaning up the main roads where slate had been allowed to accumulate; this adds greatly to the healthfulness and safety of the persons employed also to the general appearance of the mine.

Penn Manor.—The work at this mine during the year has been somewhat limited, but when last visited was in very fair condition, both in regard to ventilation and drainage.

Mines on and Near the Alexandria Branch of the Pennsylvania Railroad.

Alexandria.—Was found in fairly good condition during the year.

Jamison No. 1.—Needed improvement, both in ventilation and drainage. A portion of the workings is very shallow, which breaks to the surface in pillar workings, and in some cases rooms as well. This causes the drainage to be bad during wet seasons, and also interferes with the ventilation. However, I am glad to say that work is being done with a view of improving both.

Jamison No. 2.—This is a new drift opening in the Pittsburgh seam of coal, and is located near the No. 1 mine. The ventilation is produced by a steam jet until a connection can be made with the workings of No. 1 mine, which will only be a short time, after which the ventilation will be furnished by the fan at No. 1 mine. The condition of the mine has been found very good.

Mines on and near the Unity Branch of the Pennsylvania Railroad.

Puritan.—This mine has always been in good condition, both as regards ventilation and drainage.

Hostetter.—In good condition, both as regards ventilation and drainage.

Whitney.—Was in good condition on each visit, both as regards ventilation and drainage.

S. H. Smith.—This is a small mine located on the Ligonier Valley Railroad, near Latrobe, which has been in fairly good condition during the year.

Mines on and Near the Indiana Branch of the Western Pennsylvania Division of the Pennsylvania Railroad.

Isabella.—Was found in fairly good condition during the year.

Burrell No. 1.—Was in good condition. Ventilation and drainage good.

Burrell No. 2.—This is a new drift opening in the Pittsburgh seam of coal, located near Blairsville. The main opening is neatly timbered with 24 sets of 8″x10″ white oak timber. An incline 550 feet long has been built and is now in use for lowering coal from the mine down a hill to the tipple, where it is loaded on cars for shipment. The condition of the mine is good. A furnace has been built, which furnishes ventilation.

Graff.—Was in good condition during the year.

Maher No. 2.—Was in good condition on each visit during the year.

Smith.—Has been in good condition, both as regards ventilation and drainage.

Mitchell.—This mine has been idle for a number of years, but operations were resumed during the month of June. It is a drift opening in Lower Freeport seam of coal and the product is used in the manufacture of coke. I found it in good condition. The ventilation was at the time of my visit produced by natural means, but a fan was in course of erection.

Graceton No. 2.—This mine has been in good condition, both as regards ventilation and drainage. Among the outside improvements have been the erection of additional boilers and an air compressors for furnishing the necessary power for the operation of mining machines, ten in number, of the Puncher type.

Mines on and near the South West Branch of the Pennsylvania Railroad.

Greensburg No. 1.—Has been in good condition during the year.

Central.—The ventilation was good on each visit, but the drainage at my first and second visits was somewhat defective, which caused the roads to be wet and muddy in many places. At my last visit I found the roads and drainage much improved.

South West No. 1 "A" and "B."—I found both of these mines were in excellent condition at each visit. The ventilation was good in all parts of the workings. These workings are connected, and the ventilation for both is produced by the same fan.

South West No. 2.—Was in good condition. The ventilation was in sufficient volume, and fairly well distributed to all parts of the mine.

South West No. 3.—In good condition throughout and the health and safety of the persons employed are well looked after.

South West No. 4.—No cause of complaint can be found at this mine; good sweeping currents were measured at the face of the different entries, and the condition throughout is good.

Empire.—This is a new drift opening in the Pittsburgh seam of coal, and is located near Ruffsdale. The product is used in the manufacture of coke. On a visit to the mine I found it in good condition, except the ventilation, which was being produced by natural means. I was assured that this would not last long as preparations were being made for erecting a ventilating furnace.

Acme.—This is a new shaft opening to the Pittsburgh seam of coal, and is located 2½ miles North of Alverton. 200 coke ovens are in process of erection, and the product of the mine will be made into coke. On a visit to this mine I found it in good condition, and meas-

ured a volume of 5,600 cubic feet of air per minute passing from the downcast to the upcast shaft. The entries which were being driven were ventilated by compressed air carried up to the faces through pipes until connections could be made with the downcast shaft, where a ventilating fan of the Capell type was in course of erection, which when completed will furnish ample ventilation.

Mines Situated Near the Terminus of the Scottdale Branch of the South West Pennsylvania Railroad, and the Mt. Pleasant Branch of the Baltimore and Ohio Railroad.

Standard Shaft.—This is a large mine, the underground workings of which are very extensive. The condition is good, both as regards ventilation and drainage.

Standard Slope.—This mine resumed operations during the latter part of February, after having been idle a number of years. The underground workings are connected with the Standard shaft workings, and the ventilation is produced by the same fan. The mine is in good condition, both as regards ventilation and drainage.

Mines on and near the Sewickley Branch of the South West Pennsylvania Railroad.

Mammoth Shaft and Slope.—The underground workings of these two openings are connected, and the ventilation is produced by the same fan, which gives good results. The workings have been in good condition, both as regards ventilation and drainage.

Mutual No. 2.—The condition of this mine was very satisfactory during the year.

Mutual No. 3.—Was in good condition both as regards ventilation and drainage.

Strickler.—This mine is being rapidly worked out, the workings being confined to ribs and entry stumps. The ventilation is excellent.

Hecla No. 1.—The trouble from soft bottom in this mine still continues in some parts of the pillar workings, but notwithstanding this the mine has been in good condition both as regards ventilation and drainage.

Hecla No. 2.—Was in good condition generally, with ample ventilation, which was distributed to all parts of the mine.

Calumet.—Was in good condition. All matters pertaining to health and safety are well looked after.

United.—On each visit to this mine it was in good condition. The workings are well ventilated and receive proper attention. A compressed air locomotive is now in operation hauling coal from landings near the workings to the shaft, and is giving great satisfaction.

Humphreys.—Was in good condition, both as regards ventilation and drainage.

Marguerite.—This is a small mine and has been in good condition both as regards ventilation and drainage. A new opening is now being made into a new coal field, which will be connected with the workings of the present opening. An additional number of coke ovens are also being erected, which when completed will place this among the large operations in the district.

Mines on and near Hempfield Branch of the South West Pennsylvania Railroad.

Greensburg No. 2.—Was in good condition both as regards ventilation and drainage.

Carbon.—The condition of this mine is such that there has been no cause for complaint. The workings are well ventilated and receive proper attention.

Arona.—Is well ventilated. The drainage, except at one or two points, was reasonably good.

Madison.—The general condition of this mine is good, except the ventilation at the face of a part of the workings, which was rather weak and needed improvement. I was assured that this matter would be attended to.

Ocean No. 1.—I have always found the ventilation in this mine good. During the year a powerful ventilating fan of the Capell type was installed, which gives good results.

The workings of this mine generates considerable fire damp, especially in entries and on falls, where pillars are being drawn, and as small explosions have occurred at different times, it was thought best to use locked safety lamps, which has been done, and the underground operations are now carried on exclusively with them.

The mine is well laid out, and as before stated, is well ventilated.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Second Bituminous District, 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address
Central,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
Mammoth Shaft,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
Mammoth Slope,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
Mutual No. 2,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
Mutual No. 3,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
Monastery,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
Standard Shaft,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
Standard Slope,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
United,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
Calumet,	Westmoreland,	H. C. Frick Coke Co.,	O. W. Kennedy,	Uniontown.
No. 1 "A,"	Westmoreland,	S. W. Connellsville Coke Co.,	Jas. A. Cowan,	Mt. Pleasant.
No. 1 "B,"	Westmoreland,	S. W. Connellsville Coke Co.,	Jas. A. Cowan,	Mt. Pleasant.
No. 2,	Westmoreland,	S. W. Connellsville Coke Co.,	Jas. A. Cowan,	Mt. Pleasant.
No. 3,	Westmoreland,	S. W. Connellsville Coke Co.,	Jas. A. Cowan,	Mt. Pleasant.
No. 4,	Westmoreland,	S. W. Connellsville Coke Co.,	Jas. A. Cowan,	Mt. Pleasant.
Plum Creek,	Allegheny,	N. Y. and Cleveland Gas Coal Co.,	T. B. DeArmit,	Turtle Creek.
Sandy Creek,	Allegheny,	N. Y. and Cleveland Gas Coal Co.,	Wm. Fisher,	White Ash.
Pleasant Valley,	Westmoreland,	N. Y. and Cleveland Gas Coal Co.,	T. B. De Armit,	Turtle Creek.
Oak Hill No. 4,	Allegheny,	N. Y. and Cleveland Gas Coal Co.,	T. B. De Armit,	Turtle Creek.
Oak Hill No. 5,	Allegheny,	N. Y. and Cleveland Gas Coal Co.,	T. B. De Armit,	Turtle Creek.
Westmoreland shaft,	Westmoreland,	Westmoreland Coal Co.,	A. N. Humphreys,	Irwin.
Larimer,	Westmoreland,	Westmoreland Coal Co.,	A. N. Humphreys,	Irwin.
Export,	Westmoreland,	Westmoreland Coal Co.,	A. N. Humphreys,	Irwin.
Coal Run,	Westmoreland,	Penn Gas Coal Co.,	John F. Wolf,	Irwin.
No. 1,	Westmoreland,	Penn Gas Coal Co.,	John F. Wolf,	Irwin.
No. 2,	Westmoreland,	Penn Gas Coal Co.,	John F. Wolf,	Irwin.
No. 4,	Westmoreland,	Penn Gas Coal Co.,	John F. Wolf,	Irwin.
Hecla No. 1,	Westmoreland,	The Hecla Coke Co.		
Hecla No. 2,	Westmoreland,	The Hecla Coke Co.		
Whitney,	Westmoreland,	Hostetter Connellsville Coke Co.,	J. R. Marshall,	Whitney.
Hostetter,	Westmoreland,	Hostetter Connellsville Coke Co.,	J. R. Marshall,	Whitney.
Loyalhanna No. 1,	Westmoreland,	Loyalhanna Coal and Coke Co.		
Loyalhanna No. 2,	Westmoreland,	Loyalhanna Coal and Coke Co.		
Pandora,	Westmoreland,	Loyalhanna Coal and Coke Co.		
Humphreys,	Westmoreland,	Bessemer Coke Co.,	R. L. Martin,	Pittsburgh.
Saint Clair,	Westmoreland,	Bessemer Coke Co.,	R. L. Martin,	Pittsburgh.
Empire,	Westmoreland,	Bessemer Coke Co.,	R. L. Martin,	Pittsburgh.
Greensburg No. 1,	Westmoreland,	Greensburg Coal Co.,	Thomas L. Jones,	Greensburg.
Greensburg No. 2,	Westmoreland,	Greensburg Coal Co.,	Thomas L. Jones,	Greensburg.
Jamison No. 1,	Westmoreland,	Jamison Coal and Coke Co.,	Thomas S. Jamison,	Greensburg.
Jamison No. 2,	Westmoreland,	Jamison Coal and Coke Co.,	Thomas S. Jamison,	Greensburg.
Atlantic No. 1,	Westmoreland,	Atlantic Crushed Coke Co.		
Atlantic No 2,	Westmoreland,	Atlantic Crushed Coke Co.		
Burrell No. 1,	Indiana,	Burrell Coal Co.		
Burrell No. 2,	Indiana,	Burrell Coal Co.		

TABLE I.—Continued.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Graceton No. 2,	Indiana,	McCreary Coke Co.,	Harry McCreary,	Graceton.
Puritan,	Westmoreland,	American Coke Co.,	John McFadyen,	Latrobe.
Ocean No. 1,	Westmoreland,	Ocean Coal Co.,	Thomas Fisher,	Philadelphia.
Madison,	Westmoreland,	Sewickley Gas Coal Co.,	Thomas Donahoe, Jr.,	Darragh.
Carbon,	Westmoreland,	Carbon Coal Co.,	Thomas L. Jones,	Greensburg.
Alexandria,	Westmoreland,	Alexandria Coal Co.		
Arona,	Westmoreland,	Arona Gas Coal Co.		
Isabella,	Westmoreland,	American Steel Hoop Co.,	Hugh Kennedy,	Pittsburgh.
Derry Shaft,	Westmoreland,	Derry Coal and Coke Co.,		
Hemfield,	Westmoreland,	Hemfield Coal Co.,	Thomas L. Jones,	Greensburg.
Latrobe,	Westmoreland,	Latrobe Coal Co.,	John Lloyd,	Altoona.
Claridge,	Westmoreland,	Claridge Gas Coal Co.		
Denmark,	Westmoreland,	Manor Gas Coal Co.,	A. P. Cameron,	Claridge.
Duquesne,	Allegheny,	Corey Coal Co.,	W. L. Dixon,	Pittsburgh.
Millwood Shaft,	Westmoreland,	Millwood Coal and Coke Co.		
Strickler,	Westmoreland,	J. A. Strickler Coke Co., Ltd.		
Spring Hill,	Allegheny,	Spring Hill Gas Coal Co.		
M. Saxman,	Westmoreland,	M. Saxman, Jr., & Co.,	Frank Kiernan,	Latrobe.
Graff,	Indiana,	Blairsville Coke Co., Ltd.		
Maher No. 2,	Indiana,	Maher Coal and Coke Co.		
S. H. Smith,	Westmoreland,	The Ligonier Coal Co.		
Smith,	Indiana,	Robert Smith.		
Bradburn,	Westmoreland,	Bradburn Steel Co.		
Marguerite,	Westmoreland,	Standard Connellsville Coke Co.,	J. M. B. Reis,	Uniontown.
Mitchell,	Indiana,	Indiana Coal Co.,	Harry McCreary,	Graceton.
Lockport,	Westmoreland,	Bolivar Coal and Coke Co.		
Penn Manor Shaft,	Westmoreland,	Penn Manor Shaft Co.,	J. H. Friend,	Pittsburgh.
Weinman,	Allegheny,	Weinman Bros.,	Jacob Weinman,	Wilkinsburg.
Ocean,	Allegheny,	G. Vogele,	G. Vogele,	Wilkinsburg.
Acme,	Westmoreland,	W. J. Rainey,	T. J. Mitchell,	Dawson.
Hampton,	Allegheny,	Hampton Coal Co.,	L. C. Dickson,	Pittsburgh.
Luceseo,	Westmoreland,	Bell Coal Co.		

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman	Name of Outside Foreman.
Central,	Wm. J. Callahan,	Ferree,		Geo. Wilkes,	John Blythstone.
Mammoth Shaft,	C. M. Shank,	Mammoth,		Frank Rogers,	Wm. Kerns.
Mammoth Slope,	C. M. Shank,	Mammoth,		Thomas D. Brown.	
Mutual No. 2,	M. F. Pickard,	United,		Jacob Dewalt,	P. J. Pisula.
Mutual No. 3,	M. F. Pickard,	United,		Wm. Hart.	
Monastery,	A. F. Downing,	Latrobe,		Michael Connelly,	John E. Campbell.
Standard Shaft,	Robert Ramsey,	Mt. Pleasant,		Robert Hay,	Patrick Kelly.
Standard Slope,	Robert Ramsey,	Mt. Pleasant,		Hugh Toal,	Patrick Kelly.
United,	M. F. Pickard,	United,		Edwin Williams,	Geo. Pisula.
Calumet,	R. O. Thomas,	Calumet,		James Eaton,	N. N. Hankins.
No. 1 "A,"	W. S. Ramsey,	Mt. Pleasant,		Jno. L. Duncan,	Chas. Hyde.
No. 1 "B,"	W. S. Ramsey,	Mt. Pleasant,		Jno. Whiteld,	Chas. Hyde.
No. 2,	Jno. Q. Finch,	Mt. Pleasant,		Wm. Hawarth,	G. W. Finch.
No. 3,	J. M. Whitlaw,	Tarr,		Robert Hair,	Henry Eicher.
No. 4,	J. M. Whitlaw,	Tarr,		Joseph Logan,	R. E. Depriest.
Plum Creek,	T. B. De Armit,	Turtle Creek,	Hugh Dunning,	Thomas Howell.	
Sandy Creek,	Wm. Fisher,	White Ash,		Joseph Corbett.	
Pleasant Valley,	T. B. De Armit,	Turtle Creek,	J. H. Powell,	Henry Harris.	
Oak Hill No. 4,	T. B. De Armit,	Turtle Creek,	Jno. D. Cribbs,	Wm. P. Owens.	
Oak Hill No. 5,	T. B. De Armit,	Turtle Creek,	Robert Boyd,	C. W. Hall.	
Westmoreland shaft,			Chas. S. Gause,	James Thompson,	John W. Fisher.
Larimer,			Chas. S. Gause,	John Williams,	Leonard Clerick.
Export,			Chas. S. Gause,	Edward Halpin,	Jno. M. Watt.
Coal Run,				Wm. Rogers,	Henry Weaver.
No. 1,				John Bolan,	S. H. Wilson.
No. 2,				Wm. Jamison,	Amos Stitely.
No. 4,	E. V. Williams,	Creek,		James Absalom,	E. V. Williams.
Hecla No. 1,	Thomas Laird,	South West,		Wm. Dean, Sr.,	Chas. Roy Croft.
Hecla No. 2,	Thomas Laird,	South West,		Wm. Snedden,	Hugh Wilson.
Whitney,	J. R. Marshall,	Whitney,	F. J. Harvey,	Terrence Donelly,	James Hearty.
Hostetter,	J. R. Marshall,	Whitney,	F. J. Harvey,	Geo. Eustis,	John Harding.
Loyalhanna No. 1,	Robert McClelland,	Loyalhanna,	Michael Scanlon,	E. W. Altman.	
Loyalhanna No. 2,	Robert McClelland,	Loyalhanna,	Michael Scanlon,	E. W. Altman.	
Pandora,	Robert McClelland,	Loyalhanna,	Michael Scanlon,	Enoch Rowley.	
Humphreys,	W. H. Bush,	Humphreys,		Allen Champs,	W. H. Bush.
Saint Clair,	R. L. Martin, Jr.,	Bradenville,	Geo. K. McGonegal,	John Harris,	John McClurn.
Empire,	E. D. Humphreys,	Ruffsdale,		John H. Bitz,	O. M. Holtz.
Greensburg No. 1,			Chas. E. Jones,	David Clarke.	
Greensburg No. 2,			Chas. E. Jones,	John McIntyre.	
Jamison No. 1,	Thomas S. Jamison,	Greensburg,		John A. Hart,	Abraham Freese.
Jamison No. 2,	Thomas S. Jamison,	Greensburg,		Thomas E. Suffolk,	Geo. Humphreys.
Atlantic No. 1,	H. C. Burket,	Greensburg,	J. P. Woodmansee,	Chas. Porter,	E. O. Humphreys.
Atlantic No. 2,	H. C. Burket,	Greensburg,	J. P. Woodmansee,	Peter Louther.	
Burrell No. 1,	Thomas Maher,	Blairsville,		R. S. Snedden.	
Burrell No. 2,	Thomas Maher,	Blairsville,		Thomas R. Wilson.	

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Graceton No. 2,					
Puritan,	Wm. Kirkpatrick,	Baggaley,		James McKechan,	R. H. McCreary.
Ocean No. 1,	F. I. Kimball,	Herminie,		Charles Porter,	James Quinn.
Madison,				Charles Severn.	
Carbon,				James Duncan,	Martin Fitzgerald.
Alexandria,	A. D. Harman,	Goff,	Jos. D. Wentling,	Jos. Weightman.	
Arona,	H. I. Bovard,	Darrah,		Wm. F. Holsing,	D. K. Evans.
Isabella,	J. M. Gallagher,	Blairsville,		Wm. Nesbit.	
Derry Shaft,	E. F. Saxman,	Latrobe,		Morris J. Lewis,	J. E. McCreary.
Hempfield,			Frank Wran,	Henry Henderson.	
Latrobe,			A. O. Jones,	E. B. Davis.	
Claridge,	D. W. Jones,	Latrobe,		Steven Arkwright,	Wm. Sheehan.
Denmark,	J. Howard Patton,	Greensburg,		Wm. Johnston.	
Duquesne,	A. P. Cameron,	Claridge,		Edmund Whitman.	
Millwood Shaft,	W. L. Dixon,	Pittsburgh,		Hugh Clarke.	
Stickler,	E. B. Kimmell,	Millwood,		Thomas Thomas.	
Spring Hill,	J. A. Strickler,	Wilkinsburg,		Alex. Davenport,	M. E. Strickler.
M. Saxman,	E. W. Boyd,	Turtle Creek,	D. S. Boyd,	H. D. Penman,	M. Newham.
Graff,				J. C. Dovey,	Wm. Gibson.
Maher No. 2,	Wilbur P. Graff,	Blairsville,		Wm. Hamer.	
S. H. Smith,	Thomas Maher,	Blairsville,		W. A. Beveridge.	
Smith,	Daniel Craig,	Latrobe,		Daniel Craig.	
Braeburn,	Roy Gerard,	Blairsville,		Roy Gerard.	
Marguerite,	Wm. Beano,	Braeburn,		Wm. Braeburn.	
Mitchell,	Milton H. Kerr,	Pleasant Unity,		Robert Gordon,	Patrick J. McAndrews
Lockport,				Aaron Fuller.	
Penn Manor Shaft,	G. H. Richards,	Lockport,		John Walters,	James Lute.
Weinman,	Samuel Ferguson,	Harrison City,		Samuel Ferguson.	
Ocean,	Jacob Weinman,	Wilkinsburg,	Joshua Weinman,	Joshua Weinman,	Joshua Weinman.
Acme,	G. Vogele,	Wilkinsburg,		Wm. Rankin,	G. Vogele.
Hampton,	W. G. Duncan,	Alverton,		Wm. G. Duncan.	
	J. S. Stewart,	Edgewood Park,	J. C. Hunter,	Edgar Thompson,	J. C. Hunter.

TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Second Bituminous District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employe—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
H. C. Frick Coke Co.													
Central,	Westmoreland,		369.00	975.00	226,641.00	151,904	309.00	367	2	1	22	240	46
Mammoth Shaft,	Westmoreland,		11,346.00	2,176.00	427,644.00	285,926	309.00	516	1	.....	2	150	82
Mammoth Slope,	Westmoreland												
Mutual No. 2,	Westmoreland		575.00	520.00	146,314.00	84,150	299.00	169	.....	.....	.....	.....	18
Mutual No. 3,	Westmoreland												
Monastery,	Westmoreland,		5,700.00	495.00	195,330.00	42,350	296.00	209	.....	1	.....	20	32
Standard Shaft,	Westmoreland,		11,641.00	5,372.00	676,509.00	520,700	289.00	786	2	2	.....	350	72
Standard Slope,	Westmoreland,		1,611.00	.....	103,851.00	.....	216.00	105	.....	.....	.....	.....	16
United,	Westmoreland,		4,485.00	972.00	292,500.00	195,020	306.00	291	.....	.....	.....	.....	30
Calumet,	Westmoreland,		1,829.00	828.90	187,590.00	125,600	293.00	240	.....	1	2	50	38
Total and average,			44,589.00	11,348.00	2,256,469.00	1,404,250	293.00	2,668	5	5	26	810	318
S. W. Connellsville Coke Co.													
No. 1 "A,"	Westmoreland		18,876.00	9,633.00	681,263.00	437,631	310.00	611	.....	2	.....	50	49
No. 1 "B,"	Westmoreland,												
No. 2,	Westmoreland,		1,751.00	2,234.00	270,927.00	176,632	310.00	223	.....	.....	.....	.....	28
No. 3,	Westmoreland,		4,267.09	26,817.00	226,10 .00	130,655	310.00	226	1	.....	.....	150	23
No. 4,	Westmoreland,		496.00	1,341.00	152,004.00	100,606	310.00	142	.....	.....	.....	.....	15
Total,			24,890.00	40,025.00	1,329,994.00	845,524	310.00	1,222	1	2	.....	200	124

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
N. Y. & Cleveland Gas Coal Co.													
Plum Creek,	Allegheny,	317,861.00	2,000.00	792.00	318,653.00	.....	303.50	295	1	.....	.....	.....	13
Sandy Creek,	Allegheny,	209,402.80	1,032.50	943.25	211,468.55	.....	293.25	285	2	.....	.....	.....	34
Pleasant Valley,	Westmoreland,	155,531.00	.....	450.00	155,981.00	.....	243.00	164	.....	3	40	.....	12
Oak Hill No. 4,	Allegheny,	434,508.00	2,636.60	600.00	437,744.00	.....	298.25	409	2	5	.....	.....	26
Oak Hill No. 5,	Allegheny,	48,305.00	.....	27.00	84,332.00	.....	135.25	145	1	.....	.....	.....	6
Total and average,	.....	1,199,697.80	5,668.50	2,812.25	1,208,178.55	.....	259.00	1,296	6	8	40	.....	91
Westmoreland Coal Co.													
Westmoreland Shaft,	Westmoreland,	346,257.25	10,448.70	2,348.20	359,054.15	.....	306.75	339	4	1	.....	.....	20
Larimer,	Westmoreland,	421,795.00	3,269.00	4,764.85	429,708.85	.....	303.25	511	1	1	.....	.....	26
Export	Westmoreland,	365,423.85	1,944.60	1,378.20	368,746.65	.....	304.25	362	3	2	.....	.....	17
Total and average,	.....	1,133,476.10	15,662.30	8,431.25	1,157,509.65	.....	305.00	1,212	8	4	.....	.....	63
Penn Gas Coal Co.													
Coal Run,	Westmoreland,	111,825.00	220.00	677.00	112,722.00	.....	294.25	124	.....	1	.....	.....	12
No. 1,	Westmoreland,	185,276.00	5,148.00	2,682.00	193,107.00	.....	280.00	247	.....	.....	.....	.....	26
No. 2,	Westmoreland,	249,431.00	6,278.00	3,287.00	258,976.00	.....	296.50	348	.....	3	.....	.....	41
No. 4,	Westmoreland,	16,827.00	446.00	174.00	17,447.00	.....	41.60	175	.....	.....	.....	.....	14
Total and average,	.....	563,339.00	12,092.00	6,821.00	582,252.00	.....	230.00	884	.....	4	.....	.....	93
The Hecla Coke Co.													
Hecla No. 1,	Westmoreland,	.....	4,281.05	2,042.50	183,080[50	130,504	260.00	244	.....	.....	.....	96	35
Hecla No. 2,	Westmoreland,	.....	5,038.00	2,474.00	326,470.00	234,107	263.00	410	1	.....	.....	54	43
Total and average,	.....	.....	9,319.05	4,516.50	509,550.50	364,611	260.00	654	1	.....	.....	150	78

Hostetter Connellsville Coke Co.														
Whitney,	Westmoreland,	.....	6,200.00	1,400.00	231,000.00	160,000	294.00	305	.....	.....	.....	.....	32
Hostetter,	Westmoreland,	.....	5,200.00	1,400.00	228,000.00	159,000	294.00	324	.....	1	.....	.....	25
Total and average,	.....	.....	11,400.00	2,800.00	460,000.00	319,000	294.00	619	.....	1	.....	.....	57
Loyalhanna Coal & Coke Co.														
Loyalhanna No. 1,	Westmoreland,	136,578.00	2,441.00	1,658.00	242,101.00	58,286	273.00	331	3	3	2	20	20
Loyalhanna No. 2,	Westmoreland,	21,772.00	3,367.00	2,656.00	27,795.00	.....	308.00	63	.....	1	.....	.....	2
Patadora,	Westmoreland,	123,486.00	1,862.00	50.00	127,014.00	.....	246.00	193	.....	.....	.....	15	11
Total and average,	.....	281,836.00	7,670.00	4,364.00	396,910.00	58,286	266.00	587	3	4	2	35	33
Bessemer Coke Co.														
Humphreys,	Westmoreland,	.....	641.47	551.02	71,885.36	58,124	307.00	147	.....	.....	25	.....	12
Saint Clair,	Westmoreland,	52,704.00	1,935.00	501.00	146,459.20	69,880	260.00	136	.....	.....	2	100	10
Empire,	Westmoreland,	.....	30.00	33.00	7,726.00	5,200	70.00	87	.....	.....	4	10	5
Total and average,	.....	52,704.00	2,606.47	1,085.02	226,070.56	124,204	212.50	370	.....	.....	31	110	27
Greensburg Coal Co.														
Greensburg No. 1,	Westmoreland,	83,280.00	1,054.00	6,376.00	90,680.00	958	235.00	93	.....	1	.....	.....	16
Greensburg No. 2,	Westmoreland,	86,793.00	707.00	.....	87,500.00	.....	251.00	81	.....	1	.....	.....	6
Total and average,	.....	170,073.00	1,761.00	6,376.00	178,180.00	958	243.00	174	.....	2	.....	.....	22
Jamison Coal & Coke Co.														
Jamison No. 1,	Westmoreland,	20,000.00	15,000.00	10,560.00	158,000.00	75,000	300.00	172	1	.....	400	6,000	.....
Jamison No. 2,	Westmoreland,	.....	.....	.....	.....	.....	.....	55	.....	.....	.....	.....	.....
Total and average,	.....	20,000.00	15,000.00	10,560.00	158,000.00	75,000	300.00	227	1	.....	400	6,000	.....
Atlantic Crushed Coke Co.														
Atlantic No. 1,	Westmoreland,	20,900.00	1,850.00	470.00	73,000.00	27,140	264.00	87	.....	.....	.....	.....	10
Atlantic No. 2,	Westmoreland,	.....	.....	.....	.....	.....	264.00	20	.....	.....	.....	150	2
Total and average,	.....	29,900.00	1,850.00	470.00	73,000.00	27,140	264.00	107	.....	.....	.....	150	12
Burrell Coal Co.														
Burrell No. 1,	Indiana,	33,942.00	.....	.....	33,942.00	.....	246.00	.....	.....	.....	.....	.....	2
Burrell No. 2,	Westmoreland,	14,847.00	.....	.....	14,847.00	.....	181.00	.....	.....	.....	.....	.....	1
Total and average,	.....	48,789.00	.....	.....	48,789.00	.....	214.00	.....	.....	.....	.....	.....	3
McCreary Coke Co.														
Graceton No. 2,	Indiana,	.....	1,250.00	900.00	7,350.00	41,250	294.00	131	.....	.....	220	125	16
American Coke Co.														
Puritan,	Westmoreland,	.....	5,056.00	3,883.00	316,579.00	253,214	310.00	460	.....	.....	.....	100	36
Ocean Coal Co.														
Ocean No. 1,	Westmoreland,	284,767.00	9,110.00	1,633.00	295,510.00	.....	252.50	310	1	1	400	100	40

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employees tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Sewickley Gas Coal Co. Madison,	Westmoreland,	198,951.20	2,200.00	463.00	201,614.20	.....	260.00	242	.....	1	.....	.....	12
Carbon Coal Co. Carbon,	Westmoreland,	227,540.60	2,928.00	7,713.53	238,182.13	20,266	235.00	223	1	1	.....	.....	25
Alexandria Coal Co. Alexandria,	Westmoreland,	66,486.00	2,543.60	1,144.00	188,085.00	80,563	296.00	325	2	.....	200	2,000	22
Arona Gas Coal Co. Arona,	Westmoreland,	193,938.35	696.80	419.90	195,055.05	.....	232.56	253	1	3	.....	.....	16
American Steel Hoop Co. Isabella,	Westmoreland,	.....	5,450.00	76.00	185,450.00	116,250	310.06	225	.....	.....	3	130	25
Derry Coal & Coke Company. Derry Shaft,	Westmoreland,	86,732.04	3,987.50	1,286.00	253,011.54	111,144	303.00	280	1	1	.....	.....	20
Hempfield Coal Co. Hempfield,	Westmoreland,	140,711.00	3,085.00	5,000.00	148,796.00	.....	266.00	146	.....	1	.....	.....	15
Latrobe Coal Co. Latrobe,	Westmoreland,	196,649.97	4,265.51	4,403.98	231,244.10	81,599	290.25	276	.....	.....	.....	.....	35
Claridge Gas Coal Co. Claridge,	Westmoreland,	131,876.70	809.45	319.25	133,605.40	.....	266.00	233	1	2	2	50	18
Manor Gas Coal Co. Denmark,	Westmoreland,	141,401.40	3,600.00	363.50	145,364.90	.....	298.70	155	.....	1	300	50	12
Corey Coal Co. Duquesne,	Allegheny,	143,162.00	1,200.00	.....	144,362.00	.....	285.00	223	2	.....	.....	.....	14

Millwood Coal & Coke Co. Millwood Shaft,	Westmoreland,	104,318.00	2,831.00	225.00	107,373.00	.....	270.00	136	.....	.....	200	100	14
J. A. Strickler Coke Co. Ltd. Strickler,	Westmoreland,	84,487.05	984.00	225.00	85,696.05	.....	298.00	54	.....	.....	.....	.....	7
Spring Hill Gas Coal Co. Spring Hill,	Allegheny,	87,151.00	810.00	1,410.00	89,371.00	.....	312.00	133	.....	1	10	.....	11
M. Saxman, Jr., & Co. M. Saxman,	Westmoreland,	30,871.00	1,100.00	.....	77,610.00	35,254	277.00	73	.....	.....	.....	.....	10
Blairsville Coke Co., Ltd. Graff,	Indiana,	32,370.00	.....	1,406.00	33,770.00	.....	247.00	28	.....	.....	.....	.....	3
Maher Coal & Coke Co. Maher No. 2,	Indiana,	31,974.00	.....	.....	31,974.00	.....	200.00	36	1	.....	.....	.....	4
The Ligonier Coal Co. S. H. Smith,	Westmoreland,	50,140.29	.....	49.00	50,189.29	.....	257.00	40	.....	.....	.....	.....	3
Robert Smith. Smith,	Indiana,	45,137.00	100.00	500.00	45,737.00	.....	251.00	52	.....	.....	.....	.....	6
Braeburn Steel Co. Braeburn,	Westmoreland,	.....	.....	.....	15,485.00	.....	308.00	20	.....	.....	.....	.....	1
Standard Connellsville Coke Co. Marguerite,	Westmoreland,	.....	700.00	1,470.00	83,769.00	67,015	288.00	108	1	.....	.....	1,460	9
Indiana Coal Co. Mitchell,	Indiana,	.....	125.00	100.00	7,550.00	4,510	151.00	34	.....	.....	.....	.....	3
Bolivar Coal & Coke Co. Lockport,	Westmoreland,	7,250.00	.....	200.00	15,760.00	5,340	282.00	24	.....	.....	120	.....	2
Penn Manor Shaft Co. Penn Manor Shaft,	Westmoreland,	6,732.50	1,845.00	670.00	17,366.50	6,464	115.00	96	.....	.....	.....	.....	6
Weinman Bros. Weinman,	Allegheny,	.....	.....	8,666.00	8,666.00	.....	300.00	17	.....	.....	.....	.....	2
G. Vogele. Ocean,	Allegheny,	.....	.....	5,466.00	5,466.00	.....	303.50	14	.....	.....	.....	.....	3
W. J. Rainey. Acme,	Westmoreland,	.....	1,622.20	2,162.00	49,955.20	30,780	150.00	133	.....	.....	.....	.....	7
Hampton Coal Co. Hampton,	Allegheny,	16,800.00	55.60	245.00	17,000.00	.....	140.00	125	.....	.....	.....	.....	13
Lucesco,†	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

†Idle all the year.

Recapitulation.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
H. C. Frick Coke Co.	Westmoreland		44,589.00	11,348.00	2,276,469.00	1,404,259	292.00	2,668	5	23	26	810	318
S. W. Connellsville Coke Co.	Westmoreland		24,896.00	49,025.00	1,329,994.00	845,524	310.00	1,922	1	13	.....	200	124
N. Y. & Cleveland Gas Coal Co.	Allegheny	1,199,697.80	5,958.50	2,842.25	1,208,178.55	.....	255.00	1,296	6	8	40	.....	91
Westmoreland Coal Co.	Westmoreland	1,336,446.10	15,562.30	8,431.25	1,177,549.65	.....	305.00	1,242	8	4	.....	.....	63
Penn Gas Coal Co.	Westmoreland	563,329.00	12,992.00	6,821.00	582,372.00	.....	250.00	888	.....	4	.....	.....	33
The Isabella Coke Co.	Westmoreland		9,319.05	4,546.50	569,759.50	364,611	262.00	654	1	.....	.....	150	26
Hostetter-Connellsville Coke Co.	Westmoreland		11,460.00	2,860.00	460,460.00	319,606	294.00	641	.....	1	.....	.....	23
Logan Valley Coal & Coke Co.	Westmoreland	284,826.00	7,679.00	4,264.00	296,910.00	78,286	266.00	596	3	4	2	35	23
Bessemer Coke Co.	Westmoreland	52,764.00	2,696.47	1,085.02	226,070.56	124,264	312.00	390	.....	.....	31	110	23
Greensberg Coal Co.	Westmoreland	170,075.00	1,761.00	6,276.00	178,180.00	978	243.00	174	.....	2	.....	.....	21
Jamison Coal & Coke Co.	Westmoreland	2,000.00	1,000.00	10,460.00	78,460.00	75,060	244.00	227	1	.....	400	6,000	.....
Atlantic Crushed Coke Co.	Westmoreland	20,000.00	1,876.00	476.00	73,000.00	27,140	264.00	168	.....	.....	.....	150	12
Burrell Coal Co.	Indiana	18,789.00	.....	.....	48,789.00	.....	243.00	53	.....	.....	.....	.....	3
McCreary Coke Co.	Indiana	.....	1,250.00	900.00	7,350.00	44,250	294.00	131	.....	.....	220	125	16
American Coke Co.	Westmoreland	.....	5,956.00	3,883.00	316,779.00	273,214	316.00	465	.....	.....	.....	100	33
Owens Coal Co.	Westmoreland	284,767.00	9,110.00	1,642.00	295,519.00	.....	252.50	310	1	1	400	100	40
Sawmiller Gas Coal Co.	Westmoreland	198,951.20	2,260.00	463.00	201,614.20	.....	260.00	242	.....	1	.....	.....	12
Carton Coal Co.	Westmoreland	227,340.60	2,928.00	7,713.33	238,182.13	2,266	235.00	223	1	1	.....	.....	35
Alexandria Coal Co.	Westmoreland	66,186.00	2,533.00	1,144.00	188,085.00	80,563	296.00	325	2	.....	200	2,000	22
Acme Gas Coal Co.	Westmoreland	193,928.35	696.80	419.90	195,055.05	.....	252.50	253	1	3	.....	.....	16
American Steel Hoop Co.	Westmoreland	.....	5,440.00	70.00	187,470.00	116,270	310.00	225	.....	.....	3	130	25
Perry Coal & Coke Co.	Westmoreland	86,732.04	3,987.50	1,386.00	253,411.54	111,144	303.00	280	1	1	.....	.....	26
Hemfield Coal Co.	Westmoreland	140,744.00	3,085.00	5,000.00	148,736.00	.....	266.00	146	.....	1	.....	.....	15
Latrobe Coal Co.	Westmoreland	106,640.97	4,265.51	4,443.88	231,244.10	81,599	290.25	276	.....	.....	.....	.....	35
Citizens Gas Coal Co.	Westmoreland	131,876.70	849.45	319.25	133,005.40	.....	266.00	203	1	2	2	50	18
Manor Gas Coal Co.	Westmoreland	141,401.49	3,600.00	263.50	145,361.99	.....	298.70	155	.....	1	300	50	12
Coast Coal Co.	Allegheny	143,102.00	1,200.00	.....	144,362.60	.....	285.60	223	2	.....	.....	.....	14
Millwood Coal & Coke Co.	Westmoreland	104,318.00	2,821.00	225.00	107,373.00	.....	270.00	136	.....	.....	200	100	14
J. J. Strickler Coke Co., Ltd.	Westmoreland	84,487.05	984.00	225.00	85,696.05	.....	198.00	54	.....	.....	.....	.....	7
Spring Hill Gas Coal Co.	Allegheny	87,151.00	849.00	1,449.00	89,371.00	.....	312.00	133	.....	1	10	.....	11
M. Saxman Jr. & Co.	Westmoreland	30,871.00	1,100.00	.....	77,610.00	35,254	277.00	73	.....	.....	.....	.....	10
Blairsville Coke Co., Ltd.	Indiana	32,374.00	.....	1,400.00	33,770.00	.....	247.00	18	.....	.....	.....	.....	3

Maher Coal & Coke Co.,	Indiana,	31,974.00			31,974.00		200.00	26	1					4
The Ligonier Coal Co.,	Westmoreland,	50,140.29		49.00	50,189.29		275.00	40						6
Robert Smith,	Indiana,	45,137.00	100.00	500.00	45,737.00		251.00	52						6
Bracburn Steel Co.,	Westmoreland,				15,485.00		308.00	50						1
Standard Connellsville Coke Co.	Westmoreland,		700.00	1,470.00	82,769.00	67,015	288.00	108	1			1,100		9
Indiana Coal Co.,	Indiana,		125.00	100.00	7,570.00	4,510	151.00	34						2
Bolivar Coal & Coke Co.,	Westmoreland,	7,250.00		200.00	15,790.00	5,540	282.60	24			120			2
Penn Manor Shaft Co.,	Westmoreland,	6,732.50	1,845.00	670.00	17,566.50	6,464	115.00	96						6
Weinman Bros.,	Allegheny,			8,666.00	8,666.00		300.00	17						3
G. Vogele,	Allegheny,			5,466.00	5,466.00		303.00	14						3
W. J. Raney,	Westmoreland,		1,622.20	2,162.00	42,955.20	20,780	150.00	103						7
Hampton Coal Co.,	Allegheny,	16,800.00	55.00	245.00	17,100.00		140.00	125						13
Total and Average,		5,719,262.06	198,851.78	150,006.18	12,077,460.62	4,075,822	276	14,578	76	42	1,954	11,510	1,331	

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in Gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
H. C. Frick Coke Co.																	
Central,	Westmoreland,	2	90	9	585	675	1	.....	.....	4	230	3	1,700	800	1	2	301
Maxwerth Shaft,	Westmoreland,	16	700	.....	.....	700	1	.....	.....	7	960	6	4,200	1,800	1	1	510
Maxwerth Slope,	Westmoreland }																
Mutual No. 2,	Westmoreland }	.....	.....	2	160	160	.....	.....	.....	3	80	.....	.....	.....	.....	.....	182
Mutual No. 3,	Westmoreland }																
Monastery,	Westmoreland,	9	450	2	250	700	.....	.....	.....	6	550	3	2,000	1,000	.....	1	208
Standard Shaft,	Westmoreland,	15	525	4	280	805	4	.....	.....	12	1,020	5	4,200	1,000	1	1	901
Standard Slope,	Westmoreland,	5	175	.....	.....	175	1	.....	.....	3	325	.....	.....	.....	.....	.....	.....
United,	Westmoreland,	.....	.....	9	640	640	1	1	.....	5	475	4	2,300	600	1	2	300
Calumet,	Westmoreland,	6	300	.....	.....	300	1	.....	.....	3	305	3	1,728	672	1	1	250
Total,	.....	53	2,240	26	1,915	4,115	9	1	.....	45	3,945	24	15,928	5,932	5	8	2,652
S. W. Connellsville Coke Co.																	
No. 1 "A,"	Westmoreland }	4	35	15	42	770	4	.....	.....	6	920	8	4,500	3,400	1	2	625
No. 1 "B,"	Westmoreland }																
No. 2,	Westmoreland,	.....	.....	2	70	60	.....	.....	.....	2	100	.....	.....	.....	.....	.....	252
No. 3,	Westmoreland,	4	35	3	50	290	1	.....	.....	3	200	1	250	200	.....	.....	245
No. 4,	Westmoreland,	.....	.....	2	60	120	.....	.....	.....	1	50	.....	.....	.....	.....	.....	151
Total,	.....	8	70	22	182	1,140	5	.....	.....	12	1,270	9	4,750	3,600	1	2	1,233
N. Y. & Cleveland Gas Coal Co.																	
Plum Creek,	Allegheny,	1	20	1	80	100	1	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Sandy Creek,	Allegheny,	.....	.....	.....	.....	.....	3	.....	.....	3	207	.....	.....	.....	.....	.....	.....
Pleasant Valley,	Westmoreland,	.....	.....	2	160	160	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oak Hill No. 4,	Allegheny,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oak Hill No. 5,	Allegheny,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	.....	1	20	3	240	260	4	.....	.....	4	207	.....	.....	.....	.....	.....	.....

Westmoreland Coal Co.																	
Westmoreland Shaft,	Westmoreland,	12	400	2	250	650				9	770	4	2,000	767		2	
Larimer,	Westmoreland,	4	150	1	30	180				4	330				1		
Export,	Westmoreland,	2	60	3	360	420				6	405				1		
Total,		18	610	6	640	1,250				19	1,405	4	2,000	767	2	2	
Penn Gas Coal Co.																	
Coal Run,	Westmoreland,																
No. 1,	Westmoreland,	8	216			216				5	343	3	1,070				
No. 2,	Westmoreland,	8	160			160		2		6	594	3	2,275				
No. 4,	Westmoreland,	3	56			56				2	65	1	243				
Total,		19	432			432		2		13	802	7	3,588				
The Hecla Coke Co.																	
Hecla No. 1,	Westmoreland,	4	70	3	330	400				3	60	4	3,520	1,260			272
Hecla No. 2,	Westmoreland,	4	80	2	240	320				4	350	3	2,720	1,000			500
Total,		8	150	5	570	720				7	410	7	6,240	2,260			772
Hostetter Connellsville Coke Co.																	
Whitney,	Westmoreland,			4	50	2 0	2			1	115	4	1,900	1,000			52
Hostetter,	Westmoreland,			4	50	200	1			4	110	3	1,400	800			355
Total,				8	100	400	3			8	225	7	3,300	1,800			707
Loyalhanna Coal & Coke Co.																	
Loyalhanna No. 1,	Westmoreland,			3	240	240				5	650						240
Loyalhanna No. 2,	Westmoreland,			4	320	320	2			3	205	6	2,550	872			
Pandora,	Westmoreland,			5	400	400				6	960	1	24	24			
Total,				12	960	960	2			11	1,815	7	2,574	896			240
Bessemer Coke Co.																	
Humphreys,	Westmoreland,	2	68			68				2	20						10
Saint Clair,	Westmoreland,			2	80	80				4	160						176
Empire,	Westmoreland,			2	40	40				2	25						85
Total,		2	68	4	120	188				8	205						361
Greensburg Coal Co.																	
Greensburg No. 1,	Westmoreland,			2	120	120				4	360	1	166	85			10
Greensburg No. 2,	Westmoreland,			1	60	60				3	320	1	208	100			
Total,				3	180	180				7	680	2	374	185			10
Jamison Coal & Coke Co.																	
Jamison No. 1,	Westmoreland,			4	320	320				6	200					1	160
Jamison No. 2,	Westmoreland,																
Total,				4	320	320				6	200					1	160

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute—gallons.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
Atlantic Crushed Coke Co.																	
Atlantic No. 1.	Westmoreland.	1	60	1	100	160	.....	.....	.....	4	140	.....	.....	.....	.....	.....	79
Atlantic No. 2.	Westmoreland.	.....	.....	1	80	80	.....	.....	.....	.....	.....	1	275	120	.....	.....	.....
Total.		1	60	2	180	240	.....	.....	.....	4	140	1	275	120	.....	.....	79
Burrell Coal Co.																	
Burrell No. 1.	Indiana.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Burrell No. 2.	Westmoreland.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total.		.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McCreary Coke Co.																	
Graceton No. 2.	Indiana.	.....	.....	4	400	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	179
American Coke Co.																	
Puritan.	Westmoreland.	.....	.....	2	200	200	1	.....	.....	1	500	3	800	120	.....	.....	400
Ocean Coal Co.																	
Ocean No. 1.	Westmoreland.	.....	.....	4	800	800	.....	.....	.....	5	562	2	1,450	250	1	2	.....
Sewickley Gas Coal Co.																	
Madison.	Westmoreland.	.....	.....	2	200	200	.....	.....	.....	3	300	2	600	300	.....	.....	.....
Carbon Coal Co.																	
Carbon.	Westmoreland.	3	75	1	100	175	.....	1	..	5	236	3	2,460	875	.....	1	57
Alexandria Coal Co.																	
Alexandria.	Westmoreland.	4	275	4	375	550	1	.....	.....	6	375	1	675	675	.....	.....	204

Arona Gas Coal Co. Arona,	Westmoreland,			1	100					1								
American Steel Hoop Co. Isabella,	Westmoreland,	6	390			390	1			1		3	600	400				252
Derry Coal & Coke Company. Derry Shaft,	Westmoreland,			3	300	300			2	4	750	2	1,500	1,000	2			182
Hempfield Coal Co. Hempfield,	Westmoreland,			6	400	400				4	425	3	775	325				
Latrobe Coal Co. Latrobe,	Westmoreland,	2	50	4	240	290	1			7	240	3	1,300	300		1		136
Claridge Gas Coal Co. Claridge,	Westmoreland,			2	200	200												
Manor Gas Coal Co. Denmark,	Westmoreland,			5	215	215				4	95	2	827	252				
Corey Coal Co. Duquesne,	Allegheny,						2			2	120							
Millwood Coal & Coke Co. Millwood Shaft,	Westmoreland,	6	130			130				2	75	1	567	567		1		
J. A. Strickler Coke Co. Ltd. Strickler,	Westmoreland,	3	300			300				1	100							
Spring Hill Gas Coal Co. Spring Hill,	Allegheny,	1	50			50	1			2	62							
M. Saxman, Jr., & Co. M. Saxman,	Westmoreland,			2	120	120				1	80	2	150	150				60
Blairsville Coke Co., Ltd. Graff,	Indiana,																	24
Maher Coal & Coke Co. Maher No. 2,	Indiana,																	
The Ligonier Coal Co. S. H. Smith,	Westmoreland,																	
Robert Smith. Smith,	Indiana,																	
Braeburn Steel Co. Braeburn,	Westmoreland,																	
Standard Connellsville Coke Co. Marguerite,	Westmoreland,			1	57	57				1	57	1	120	100				100

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
Indiana Coal Co.																	
Mitchell,	Indiana,	.....	.....	1	30	30	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	24
Latrobe Coal & Coke Co.																	
Lockhart,	Westmoreland,	.....	.....	1	20	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	53
Penn Manor Shaft Co.																	
Penn Manor Shaft,	Westmoreland,	1	74	.....	.....	74	.....	.....	.....	1	240	2	800	200	.....	.....	43
Wenman Bros.																	
Wenman,	Allegheny,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
G. Vogel.																	
Ocean,	Allegheny,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
W. J. Rainey.																	
Acme,	Westmoreland,	.....	.....	2	400	400	.....	.....	.....	1	85	1	125	25	.....	.....	124
Hampton Coal Co.																	
Hampton,	Allegheny,	.....	.....	.....	.....	.....	1	.....	.....	1	300	.....	.....	.....	.....	.....	.....
Luesang,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

*Idle all the year.

Recapitulation.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity per minute—gallons.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
H. C. Frick Coke Co.,	Westmoreland,	53	2,240	26	1,915	4,155	9	1	.....	45	3,945	24	15,928	5,932	5	8	2,652
S. W. Connellsville Coke Co.	Westmoreland,	8	70	22	182	1,140	5	.....	.....	12	1,270	9	4,750	3,600	1	2	1,233
N. Y. & Cleveland Gas Coal Co.,	Allegheny	1	20	3	240	260	4	.....	.....	4	207	.....	.....	.....	.....	.....	.....
Westmoreland Coal Co.,	Westmoreland,	18	610	6	640	1,250	.....	.....	.....	19	1,405	4	2,900	767	2	2	.....
Penn Gas Coal Co.,	Westmoreland,	19	432	.....	.....	432	.....	2	.....	13	802	7	3,588	.....	.....	.....	.....
The Hecla Coke Co.,	Westmoreland,	8	150	5	570	720	.....	.....	.....	7	410	7	6,240	2,260	.....	.....	772
Hostetter Connellsville Coke Co.	Westmoreland,	.....	.....	8	100	400	3	.....	.....	8	225	7	3,200	1,800	.....	.....	707
Loyalhanna Coal & Coke Co.,	Westmoreland,	.....	.....	12	960	960	2	.....	.....	14	1,815	7	2,574	896	.....	.....	240
Bessemer Coke Co.,	Westmoreland,	2	68	4	120	188	.....	.....	.....	8	205	.....	.....	.....	.....	.....	361
Greensburg Coal Co.,	Westmoreland,	.....	.....	3	180	180	.....	.....	.....	7	680	2	374	185	.....	.....	10
Jamison Coal & Coke Co.,	Westmoreland,	.....	.....	4	320	320	.....	.....	.....	6	200	.....	.....	.....	.....	1	160
Atlantic Crushed Coke Co.,	Westmoreland,	1	60	2	180	240	.....	.....	.....	4	140	1	275	120	.....	.....	79
Burrell Coal Co.,	Indiana,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
McCreary Coke Co.,	Indiana,	.....	.....	4	400	400	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	179
American Coke Co.,	Westmoreland,	.....	.....	2	200	200	1	.....	.....	1	500	3	800	120	.....	.....	400
Ocean Coal Co.,	Westmoreland,	.....	.....	4	800	800	.....	.....	.....	5	963	2	1,450	250	1	2	.....
Sewickley Gas Coal Co.,	Westmoreland,	.....	.....	2	200	200	.....	.....	.....	3	300	2	600	400	.....	.....	.....
Carbon Coal Co.,	Westmoreland,	3	75	1	100	175	.....	1	.....	5	236	3	2,460	875	.....	1	57
Alexandria Coal Co.,	Westmoreland,	4	375	4	375	750	1	.....	.....	6	375	1	675	675	.....	.....	201
Arona Gas Coal Co.,	Westmoreland,	.....	.....	1	100	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
American Steel Hoop Co.,	Westmoreland,	6	300	.....	.....	300	1	.....	.....	1	.....	3	600	400	.....	.....	252
Derry Coal & Coke Co.,	Westmoreland,	.....	.....	3	300	300	.....	.....	2	4	750	3	1,500	1,000	2	.....	182
Hempfield Coal Co.,	Westmoreland,	.....	.....	6	400	400	.....	.....	.....	4	125	3	775	325	.....	.....	.....
Latrobe Coal Co.,	Westmoreland,	2	50	4	240	290	1	.....	.....	7	240	3	1,300	300	.....	1	136
Claridge Gas Coal Co.,	Westmoreland,	.....	.....	2	200	200	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Manor Gas Coal Co.,	Westmoreland,	.....	.....	5	215	215	.....	.....	.....	4	95	2	827	352	.....	.....	.....
Corey Coal Co.,	Allegheny	.....	.....	.....	.....	.....	2	.....	.....	2	120	.....	.....	.....	.....	.....	.....
Millwood Coal & Coke Co.,	Westmoreland,	6	130	.....	.....	130	.....	.....	.....	2	75	1	567	567	.....	1	.....
J. A. Strickler Coke Co., Ltd.,	Westmoreland,	3	300	.....	.....	300	.....	.....	.....	1	100	.....	.....	.....	.....	.....	.....
Spring Hill Gas Coal Co.,	Allegheny	1	50	.....	.....	50	1	.....	.....	2	62	.....	.....	.....	.....	.....	.....
M. Saxman, Jr., & Co.,	Westmoreland,	.....	.....	2	120	120	.....	.....	.....	1	80	2	150	150	.....	.....	60

Recapitulation—Continued.

Name of Colliery.	County.	Number of Boilers.				Locomotives.			Number of steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.	Steam.	Air.	Electricity.								
Blairsville Coke Co., Ltd.,	Indiana.															24
Maher Coal & Coke Co.,	Indiana.															
The Lazonier Coal Co.,	Westmoreland,															
Robert Smith,	Indiana,															
Blackburn Steel Co.,	Westmoreland,															
Standard Connellsville Coke Co.	Westmoreland,			1	57	57			1	57	1	120	100			100
Indiana Coal Co.,	Indiana.			1	30	30										24
Bolivar Coal & Coke Co.,	Westmoreland,			1	20	20										53
Penn Maher Shaft Co.,	Westmoreland,	4	74			74			1	240	2	800	200			43
Wenman Bros.,	Allegheny,															
G. Vogele,	Allegheny,															
W. J. Rainey,	Westmoreland,			2	400	400			1	85	1	125	25			124
Hampton Coal Co.,	Allegheny,						1		1	300						
Total,		139	5,994	140	9,564	15,746	31	4	2	203	16,307	99	51,778	21,299	11	19	8,052

TABLE III—Showing the number of each class of employes at each colliery in the Second Bituminous District, during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.							Occupations of Persons Employed Outside.								
	Inside foreman or mine boss.	Fire bosses.	Miners.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	Grand total inside and outside.
H. C. Frick Coke Co.																
Central,	2	2	170	27	1	26	228	1	7	8	.....	110	3	10	139	367
Mammoth Shaft,	2	3	200	27	2	22	256	1	8	9	.....	225	3	14	260	516
Mammoth Slope,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mutual No. 2,	2	1	68	8	.....	4	83	1	3	3	.....	60	2	9	77	160
Mutual No. 3,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Monastery,	1	1	90	16	3	9	120	2	4	8	1	66	2	6	89	209
Standard Shaft,	1	4	330	30	12	44	424	4	9	11	1	315	4	12	356	780
Standard Slope,	1	1	73	9	1	7	94	1	3	3	.....	.....	.....	1	11	105
United,	1	2	123	21	4	16	167	1	6	4	.....	103	2	7	124	291
Calumet,	1	2	115	15	2	11	146	1	6	4	.....	80	2	1	94	240
Total,	11	16	1,174	153	25	139	1,518	12	44	32	2	959	23	59	1,150	2,668
S. W. Connellsville Coke Co.																
No. 1 "A,"	1	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
No. 1 "B,"	1	1	263	26	2	28	324	1	8	19	.....	208	10	41	287	611
No. 2,	1	1	101	12	1	8	124	1	3	3	.....	87	2	13	109	233
No. 3,	1	1	86	13	.....	29	130	1	2	3	.....	70	2	24	106	236
No. 4,	1	1	57	7	1	8	75	1	1	2	.....	54	1	8	67	142
Total,	5	6	507	58	4	73	653	4	14	31	.....	419	15	86	569	1,222

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.							Occupations of Persons Employed Outside.								Grand total Inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
N. Y. & Cleveland Gas Coal Co.																
Plum Creek	1	.....	230	12	10	11	264	.....	4	2	.....	.....	4	21	31	295
Sandy Creek	1	.....	203	18	4	9	236	.....	4	4	3	.....	2	34	47	283
Pleasant Valley	1	.....	123	12	7	5	148	1	.....	.....	.....	.....	1	12	16	164
Oak Hill No. 4	1	.....	220	24	16	6	367	1	2	3	.....	.....	3	23	32	399
Oak Hill No. 5	1	.....	122	6	2	4	135	.....	1	.....	.....	.....	1	8	10	145
Total	5	.....	998	73	39	35	1,150	2	13	9	3	.....	11	98	136	1,286
Westmoreland Coal Co.																
Westmoreland Shaft	2	3	252	19	8	15	299	1	5	10	2	.....	2	20	40	339
Larimer	2	2	405	27	19	20	475	1	3	3	2	.....	2	25	36	511
Export	2	2	282	17	8	21	332	1	4	3	2	.....	2	18	30	362
Total	6	7	939	63	35	56	1,106	3	12	16	6	.....	6	63	106	1,212
Penn Gas Coal Co.																
Coal Run	1	1	91	12	5	4	114	1	2	.....	.....	.....	.....	7	10	124
No. 1	1	3	173	20	7	10	214	1	3	4	2	.....	.....	17	27	241
No. 2	1	3	246	32	6	22	310	1	5	5	3	.....	.....	24	28	348
No. 4	1	2	125	10	1	13	152	1	2	3	2	.....	.....	15	23	175
Total	4	9	635	74	19	49	790	4	12	12	7	.....	.....	63	98	888

The Hecla Coke Co.																
Hecla No. 1,	1	1	102	19	8	14	145	2	5	6	.....	77	3	6	99	244
Hecla No. 2,	1	2	180	28	15	13	239	2	6	6	.....	144	3	10	171	419
Total,	2	3	282	47	23	27	384	4	11	12	.....	221	6	16	270	654
Hostetter Connellsville Coke Co.																
Whitney,	1	2	130	14	2	14	163	1	4	4	.....	121	1	21	172	305
Hostetter,	1	2	132	11	1	14	161	1	5	4	.....	125	2	28	165	314
Total,	2	4	262	25	3	28	324	2	9	8	.....	246	3	49	337	641
Loyalhanna Coal and Coke Co.																
Loyalhanna No. 1,	1	1	158	25	2	22	209	1	11	3	4	68	2	42	131	340
Loyalhanna No. 2,	.....	1	51	2	.....	3	57	.....	.....	2	2	.....	1	.....	6	63
Pandora,	1	1	146	18	3	14	183	.....	2	3	4	.....	1	.....	10	193
Total,	2	3	355	45	5	39	449	1	13	9	10	68	4	42	147	596
Bessemer Coke Co.																
Humphreys,	1	.....	48	9	.....	3	61	1	2	2	.....	73	2	6	86	147
Saint Clair,	1	.....	62	11	4	7	85	1	3	4	.....	50	2	10	71	156
Empire,	1	.....	38	4	.....	3	46	1	2	1	.....	30	2	5	41	87
Total,	3	.....	148	24	4	13	192	3	7	7	.....	153	7	21	198	390
Greensburg Coal Co.																
Greensburg No. 1,	1	.....	60	11	2	3	77	1	3	4	.....	3	1	4	16	93
Greensburg No. 2,	1	.....	60	5	.....	2	68	1	2	2	.....	.....	1	7	13	81
Total,	2	.....	120	16	2	5	145	2	5	6	.....	3	2	11	29	174
Jamison Coal & Coke Co.																
Jamison No. 1,	1	.....	65	4	2	2	74	2	4	4	.....	76	1	11	98	172
Jamison No. 2,	1	.....	45	8	.....	1	55	.....	.....	.....	.....	.....	.....	.....	.....	55
Total,	2	.....	110	12	2	3	129	2	4	4	.....	76	1	11	98	227
Atlantic Crushed Coke Co.																
Atlantic No. 1,	1	.....	40	6	2	3	52	1	2	4	.....	17	2	10	36	88
Atlantic No. 2,	1	.....	15	1	1	2	20	.....	.....	.....	.....	.....	.....	.....	.....	20
Total,	2	.....	55	7	3	5	72	1	2	4	.....	17	2	10	36	108
Burrell Coal Co.																
Burrell No. 1,	1	.....	30	2	.....	.....	33	.....	.....	.....	.....	.....	1	2	3	36
Burrell No. 2,	1	.....	12	1	.....	1	15	.....	.....	.....	.....	.....	1	1	2	17
Total,	2	.....	42	3	.....	1	48	.....	.....	.....	.....	.....	2	3	5	53
McCreary Coke Co.																
Graceton No. 2,	1	.....	60	6	.....	2	69	1	3	4	.....	38	4	12	62	131

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.							Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
American Coke Co.																
Puritan,	2	1	215	30	10	38	296	2	4	5	.....	140	2	11	164	460
Ocean Coal Co.																
Ocean No. 1,	1	5	225	20	10	20	281	.....	5	9	3	.....	2	10	29	310
Sewickley Gas Coal Co.																
Madison,	1	.....	207	17	6	11	242	1	3	3	1	.....	3	11	22	264
Carbon Coal Co.																
Carbon,	2	.....	150	17	.....	8	177	1	4	4	.....	26	1	10	46	223
Alexandria Coal Co.																
Alexandria,	1	.....	189	16	2	7	206	1	4	6	.....	96	2	10	119	325
Arona Gas Coal Co.																
Arona,	1	.....	204	14	7	8	234	.....	4	3	.....	.....	2	10	19	253
American Steel Hoop Co.																
Isabella,	2	.....	88	14	3	13	120	1	9	6	.....	55	3	31	105	225
Derry Coal and Coke Co.																
Derry Shaft,	2	2	160	15	8	13	200	.....	3	4	.....	61	4	8	80	280
Hempfield Coal Co.																
Hempfield,	2	.....	104	12	2	4	124	1	4	5	.....	.....	.....	12	22	146

Latrobe Coal Co.																
Latrobe,	1	1	155	22	4	11	194	1	7	6	.....	54	3	11	82	276
Claridge Gas Coal Co.																
Claridge,	1	1	182	14	6	6	210	.....	3	3	.....	.....	2	15	23	233
Manor Gas Coal Co.																
Denmark,	1	1	113	12	4	6	137	.....	3	4	.....	.....	2	9	18	155
Corey Coal Co.																
Duquesne,	1	.....	183	8	4	5	203	1	3	4	2	.....	2	8	20	223
Millwood Coal & Coke Co.																
Millwood Shaft,	1	1	90	14	3	7	116	.....	3	3	1	.....	1	12	20	136
J. A. Strickler Coke Co., Ltd.																
Strickler,	1	.....	40	4	1	2	48	1	1	2	.....	.....	.....	2	6	54
Spring Hill Gas Coal Co.																
Spring Hill,	2	.....	99	6	4	2	113	1	2	4	.....	.....	4	9	20	133
M. Saxman, Jr., & Co.																
M. Saxman,	1	.....	50	8	1	4	64	1	1	2	.....	10	1	4	19	83
Blairsville Coke Co., Ltd.																
Graff,	1	.....	21	3	.....	3	28	.....	.....	.....	.....	.....	.....	.....	.....	28
Maher Coal & Coke Co.																
Maher No. 2,	1	.....	30	3	.....	.....	34	.....	.....	.....	.....	.....	2	.....	2	36
The Ligonier Coal Co.																
S. H. Smith,	1	.....	34	3	1	1	40	.....	.....	.....	.....	.....	1	1	2	42
Robert Smith.																
Smith,	1	.....	45	4	.....	2	52	.....	.....	.....	.....	.....	.....	.....	.....	52
Braeburn Steel Co.																
Braeburn,	1	.....	16	2	1	.....	20	.....	.....	.....	.....	.....	.....	.....	.....	20
Standard Connellsville Coke Co.																
Marguerite,	1	.....	56	4	2	3	66	1	3	3	.....	30	2	3	42	108
Indiana Coal Co.																
Mitchell,	1	.....	25	2	.....	.....	28	1	.....	.....	.....	5	.....	.....	6	34
Boliver Coal and Coke Co.																
Lockport,	1	.....	11	2	.....	1	15	1	.....	.....	1	6	1	.....	9	24
Penn Manor Shaft Co.																
Penn Manor Shaft,	1	2	60	4	1	5	73	.....	1	3	.....	16	1	2	23	96
Weinman Bros.																
Weinman,	1	.....	15	1	.....	.....	17	.....	.....	.....	.....	.....	.....	.....	.....	17

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.							Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
G. Vogele.																
Ocean	1	.....	10	1	.....	.....	12	.....	.....	.....	.....	.....	2	.....	2	14
W. J. Rainey.																
Acme	1	1	52	7	1	9	71	1	3	4	.....	45	2	7	62	133
Hampton Coal Co.																
Hampton	1	.....	80	9	5	7	162	1	2	1	.....	.....	3	16	23	125
Lucas	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Recapitulation.

H. C. Frick Coke Co.	14	16	1,174	158	25	139	1,518	12	44	32	2	950	23	59	1,150	2,668
South West Connellsville Coke Co.	5	6	507	58	4	73	653	4	14	21	.....	419	15	86	569	1,222
N. Y. and Cleveland Gas Coal Co.	5	.....	908	73	32	35	1,150	2	13	9	3	.....	11	98	136	1,286
Westmoreland Coal Co.	8	7	939	63	37	36	1,106	3	12	16	8	.....	6	62	106	1,212
Penn Gas Coal Co.	4	3	625	74	10	19	790	3	12	12	4	.....	.....	63	98	888
The Hecla Coke Co.	3	3	282	17	23	27	384	4	11	12	.....	221	6	16	270	654
Hostetter Connellsville Coke Co.	4	4	292	35	3	28	324	3	9	8	.....	246	3	49	317	641
Logan Iron and Coal Co.	2	3	355	15	5	29	449	11	13	9	10	68	4	42	147	596

| | | |

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
H. C. Frick Coke Co.													
Central,	26.00	24.00	26.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	309.00
Mammoth Shaft,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	25.00	26.00	26.00	25.00	309.00
Mammoth Slope,													
Mutual No. 2,	27.00	24.00	25.00	24.00	22.00	24.00	25.00	27.00	26.00	24.00	26.00	25.00	299.00
Mutual No. 3,													
Monastery,	26.00	22.00	24.00	23.00	24.00	22.00	25.00	27.00	26.00	26.00	26.00	25.00	296.00
Standard Shaft,	22.00	22.00	24.00	23.00	24.00	24.00	24.00	26.00	24.00	25.00	26.00	25.00	289.00
Standard Slope,		2.00	23.00	24.00	24.00	22.00	24.00	26.00	25.00	25.00	26.00	25.00	246.00
United,	26.00	23.00	26.00	25.00	25.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	306.00
Calumet,	22.00	22.00	25.00	24.00	24.00	24.00	25.00	27.00	24.00	25.00	26.00	25.00	293.00
Average,	25.00	20.37	25.00	24.12	24.62	24.25	24.75	26.75	25.25	25.37	26.00	25.00	‡293.37
S. W. Connellsville Coke Co.													
No. 1 "A,"	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
No. 1 "B,"	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
No. 2,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
No. 3,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
No. 4,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
Average,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	‡310.00

N. Y. & Cleveland Gas Coal Co.													
Plum Creek,	26.00	23.50	26.00	25.00	26.00	26.00	25.00	26.00	25.25	26.00	24.75	24.00	303.50
Sandy Creek,	25.25	22.25	24.75	24.25	24.50	25.25	24.25	27.00	24.50	24.50	23.75	24.00	293.25
Pleasant Valley,	20.50	22.00	17.00	12.00	22.00	22.50	21.50	19.50	18.00	21.00	23.00	24.00	243.00
Oak Hill No. 4,	24.25	23.50	26.50	23.25	25.50	25.50	24.50	26.50	25.25	25.50	24.25	23.75	298.25
Oak Hill No. 5,	.....	.....	.....	.....	.....	.....	12.00	27.00	26.00	26.00	24.25	20.00	136.25
Total,	24.00	22.81	23.56	21.12	24.50	24.81	21.65	25.00	23.80	24.60	24.00	23.15	‡254.85
Westmoreland Coal Co.													
Westmoreland Shaft,	25.00	23.00	30.75	25.00	26.00	25.00	25.00	27.00	25.00	25.00	25.00	25.00	306.75
Larimer,	26.00	21.00	27.00	25.00	26.00	25.25	24.50	27.00	26.00	26.00	24.50	25.00	303.25
Export,	28.00	23.75	26.50	25.00	26.00	25.00	25.00	25.00	24.00	26.00	25.00	25.00	304.25
Total,	26.33	22.58	28.08	25.00	26.00	25.08	24.83	26.33	25.00	25.66	24.83	25.00	‡304.75
Penn Gas Coal Co.													
Coal Run,	24.25	18.75	26.75	25.00	24.50	25.00	24.25	24.75	25.00	25.00	26.00	25.00	294.25
No. 1,	25.00	21.00	26.50	25.00	24.00	24.50	24.25	25.00	25.00	25.00	24.50	20.50	290.00
No. 2,	24.50	18.50	27.00	25.00	25.00	25.00	24.50	26.00	26.00	25.00	25.00	25.00	296.50
No. 4,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	18.00	23.00	41.00
Total,	24.58	19.41	26.75	25.00	24.50	24.66	24.16	25.25	25.33	25.00	23.37	23.35	‡229.43
The Hecla Coke Co.													
Hecla No. 1,	22.00	18.00	23.00	23.00	23.00	22.00	25.00	22.00	16.00	21.00	22.00	23.00	260.00
Hecla No. 2,	22.00	16.00	24.00	23.00	23.00	22.00	25.00	24.00	18.00	19.00	22.00	25.00	263.00
Total,	22.00	17.00	23.50	23.00	23.00	22.00	25.00	23.00	17.00	20.00	22.00	24.00	‡261.50
Hostetter Connellsville Coke Co.													
Whitney,	22.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	22.00	20.00	24.00	25.00	294.00
Hostetter,	22.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	22.00	20.00	23.00	25.00	294.00
Total,	22.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	22.00	20.00	23.50	25.00	‡264.00
Loyalhanna Coal and Coke Co.													
Loyalhanna No. 1,	26.00	19.00	4.00	22.00	22.00	26.00	25.00	27.00	26.00	26.00	25.00	25.00	273.00
Loyalhanna No. 2,	26.00	24.00	27.00	25.00	26.00	26.00	25.00	27.00	26.00	26.00	25.00	25.00	308.00
Pandora,	.....	.....	17.00	25.00	20.00	19.00	25.00	20.00	17.00	26.00	22.00	25.00	216.00
Total,	26.00	16.50	24.00	24.00	22.66	20.33	25.00	24.66	23.00	26.00	24.00	25.00	‡265.66
Bessemer Coke Co.													
Humphreys,	26.00	24.00	26.00	25.00	27.00	26.00	25.00	26.00	26.00	25.00	26.00	25.00	307.00
Saint Clair,	.....	11.00	26.00	25.00	18.00	25.00	26.00	27.00	25.00	27.00	26.00	24.00	260.00
Empire,	.....	.....	.....	.....	.....	.....	.....	.....	.....	19.00	26.00	25.00	70.00
Total,	26.00	17.50	26.00	25.00	22.50	25.50	25.50	26.50	25.50	23.66	26.00	24.66	‡212.33

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Greensburg Coal Co.													
Greensburg No. 1	18.00	19.00	16.00	12.00	11.00	17.00	25.00	23.00	22.00	22.00	22.00	25.00	235.00
Greensburg No. 2	21.00	19.00	16.00	11.00	21.00	18.00	25.00	24.00	22.00	26.00	23.00	22.00	251.00
Total	19.50	19.00	16.00	13.00	17.50	17.50	25.00	23.50	22.00	24.00	22.50	23.50	1243.00
Jamison Coal & Coke Co.													
Jamison No. 1	25.00	24.00	26.00	23.00	25.00	25.00	25.00	24.00	26.00	25.00	25.00	27.00	300.00
Jamison No. 2	.....	.....	.....	.....	.....	.....	.....	24.00	26.00	25.00	25.00	27.00	127.00
Total	25.00	24.00	26.00	23.00	25.00	25.00	25.00	24.00	26.00	25.00	25.00	27.00	1213.50
Atlantic Crushed Coke Co.													
Atlantic No. 1	21.00	20.00	19.00	22.00	16.50	22.50	21.00	22.00	24.00	25.50	25.50	25.00	264.00
Atlantic No. 2	21.00	20.00	19.00	22.00	16.50	22.50	21.00	22.00	24.00	25.50	25.50	25.00	264.00
Total	21.00	20.00	19.00	22.00	16.50	22.50	21.00	22.00	24.00	25.50	25.50	25.00	1264.00
Burrell Coal Co.													
Burrell No. 1	27.00	22.00	27.00	25.00	27.00	24.00	.....	.....	17.00	26.00	26.00	25.00	246.00
Burrell No. 2	.....	15.00	20.00	20.00	23.00	21.00	.....	.....	11.00	22.00	24.00	25.00	181.00
Total	27.00	18.50	23.50	22.50	25.00	22.50	.....	.....	14.00	24.00	25.00	25.00	1213.50
McCreary Coke Co.													
Graceton No. 2	25.00	23.00	25.00	25.00	25.00	25.00	24.00	25.00	25.00	24.00	23.00	24.00	294.00

American Coke Co.													
Puritan,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
Ocean Coal Co.													
Ocean No. 1,	18.50	18.00	22.50	22.00	25.00	25.50	21.50	20.50	17.50	22.50	23.00	19.00	252.50
Sewickley Gas Coal Co.													
Madison,	23.00	18.00	24.00	17.00	18.00	15.00	20.00.	26.00	23.00	26.00	25.00	25.00	260.00
Carbon Coal Co.													
Carbon,	11.00	20.00	11.00	10.00	22.00	20.00	24.00	21.00	20.00	25.00	26.00	25.00	235.00
Alexandria Coal Co.													
Alexandria,	24.00	22.00	27.00	24.00	23.00	25.00	25.00	26.00	26.00	24.00	26.00	25.00	297.00
Arona Gas Coal Co.													
Arona,	14.50	13.50	16.75	12.60	17.50	18.00	21.50	25.00	21.50	25.50	24.50	23.25	232.50
American Steel Hoop Co.													
Isabella,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
Derry Coal and Coke Co.													
Derry Shaft,	26.00	24.00	27.00	25.00	21.00	26.00	25.00	27.00	26.00	24.00	26.00	26.00	303.00
Hempfield Coal Co.													
Hempfield,	24.00	23.00	27.00	24.00	22.00	20.00	21.00	20.00	20.00	21.00	22.00	22.00	266.00
Latrobe Coal Co.													
Latrobe,	23.75	21.75	25.00	23.00	21.50	22.50	24.50	26.75	25.75	25.75	25.00	25.00	290.25
Claridge Gas Coal Co.													
Claridge,	20.00	22.00	21.00	13.00	20.00	18.00	24.00	27.00	25.00	26.00	25.00	25.00	266.00
Manor Gas Coal Co.													
Denmark,	25.00	21.50	24.80	24.60	26.00	26.00	23.70	26.00	25.60	25.80	24.70	25.00	298.70
Corey Coal Co.													
Duquesne,	26.00	26.00	25.00	21.00	26.00	26.00	22.00	24.00	22.00	24.00	25.00	24.00	285.00
Millwood Coal & Coke Co.													
Millwood Shaft,	23.00	22.00	24.00	23.00	22.00	20.00	20.00	22.00	22.00	24.00	23.00	25.00	270.00
J. A. Strickler Coke Co., Ltd.													
Strickler,	26.00	23.00	26.00	25.00	25.00	26.00	23.00	26.00	26.00	22.00	25.00	25.00	298.00
Spring Hill Gas Coal Co.													
Spring Hill,	26.00	24.00	27.00	25.00	27.00	26.00	26.00	27.00	26.00	26.00	26.00	26.00	312.00
M. Saxman, Jr., & Co.													
M. Saxman,	24.00	22.50	25.00	21.75	18.00	21.00	22.50	23.00	22.50	25.25	24.50	24.00	277.00
Blairsville Coke Co., Ltd.													
Graff,	25.00	18.00	22.00	17.00	24.00	21.00	.....	22.00	24.00	23.00	26.00	25.00	247.00

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Maher Coal & Coke Co.													
Maher No. 2,	24.00	19.00	20.00	18.00	21.00	19.00	.....	.....	9.00	21.00	24.00	25.00	200.00
The Ligonier Coal Co.													
S. H. Smith,	26.00	22.00	22.00	18.00	15.50	16.00	24.00	21.50	25.00	23.00	20.00	24.00	257.00
Robert Smith.													
Smith,	24.00	21.00	19.00	22.00	23.00	24.00	2.00	22.00	25.00	22.00	21.00	26.00	251.00
Braeburn Steel Co.													
Braeburn,	26.00	24.00	27.00	25.00	26.00	26.00	25.00	27.00	26.00	26.00	25.00	25.00	308.00
Standard Connellsville Coke Co.													
Marguerite,	25.00	22.00	24.00	24.00	26.00	25.00	25.00	24.00	22.00	22.00	25.00	24.00	288.00
Indiana Coal Co.													
Mitchell,	.....	.....	.....	.....	.....	10.00	25.00	24.00	25.00	25.00	24.00	24.00	157.00
Bolivar Coal and Coke Co.													
Lockport,	24.00	21.00	22.00	22.00	24.00	23.00	23.00	25.00	24.00	26.00	23.00	25.00	282.00
Penn Manor Shaft Co.													
Penn Manor Shaft,	.....	.....	.....	.....	.....	.....	.....	20.50	21.25	23.00	25.00	25.00	115.00
Weinman Bros.													
Weinman,	26.00	24.00	26.00	23.00	21.00	26.00	24.00	27.00	26.00	26.00	26.00	25.00	300.00

G. Vogele.													
Ocean,	26.00	24.00	26.00	25.00	26.00	26.00	25.00	25.00	25.00	25.00	25.00	25.00	303.00
W. J. Rainey.													
Acme,	.....	.....	.....	.....	.....	.....	19.00	26.00	26.00	27.00	27.00	27.00	150.00
Hampton Coal Co.													
Hampton,	24.00	21.00	16.00	14.00	16.00	13.00	10.00	16.00	10.00	.....	.....	.....	140.00
Lucesco,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Recapitulation.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
H. C. Frick Coke Co.,	25.00	20.37	25.60	24.12	24.62	24.25	24.75	26.75	25.25	25.37	26.00	25.00	293.37
South West Connellsville Coke Co.,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
N. Y. and Cleveland Gas Coal Co.,	24.00	22.81	23.56	21.12	24.50	24.81	21.65	25.00	23.80	24.60	24.00	23.15	254.85
Westmoreland Coal Co.,	26.33	22.58	28.08	25.00	26.00	25.08	24.83	26.33	25.60	25.66	24.83	25.00	304.75
Penn Gas Coal Co.,	24.58	19.41	26.75	25.00	24.50	24.66	24.16	25.25	25.33	25.00	23.37	23.35	230.43
The Hecla Coke Co.,	22.00	17.00	23.50	23.00	23.00	22.00	25.00	23.00	17.00	20.00	22.00	24.00	261.50
Hostetter Connellsville Coke Co.,	22.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	22.00	20.00	23.50	25.00	294.00
Loyalhanna Coal and Coke Co.,	26.60	16.50	24.00	24.00	22.66	20.33	25.00	24.65	23.00	26.00	24.00	25.00	265.66
Bessemer Coke Co.,	26.00	17.50	26.00	25.00	22.50	25.50	25.50	26.50	25.50	23.66	26.00	24.66	242.33
Greensburg Coal Co.,	19.50	19.00	16.00	13.00	17.50	17.50	25.00	25.50	22.00	24.00	22.50	23.50	243.00
Jamison Coal and Coke Co.,	25.00	24.00	26.00	23.00	25.00	25.00	25.00	24.00	24.00	25.00	25.00	27.00	273.50
Atlantic Crushed Coke Co.,	21.00	20.00	19.00	22.00	16.50	22.50	21.00	22.00	24.00	25.50	25.50	25.00	264.00
Burrell Coal Co.,	27.00	18.50	23.50	22.50	25.00	22.50	.....	.....	14.00	24.00	25.00	25.00	213.50
McCreary Coke Co.,	25.00	23.00	25.00	25.00	25.00	25.00	24.00	25.00	25.00	24.00	23.00	24.00	294.00
American Coke Co.,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
Ocean Coal Co.,	18.50	18.00	22.50	22.00	25.00	22.50	21.50	20.50	17.50	22.50	23.00	19.00	252.50
Sewickley Gas Coal Co.,	23.00	18.00	24.00	17.00	18.00	15.00	20.00	26.00	23.00	26.00	25.00	25.00	260.00
Carbon Coal Co.,	11.00	20.00	11.00	10.00	22.00	20.00	24.00	24.00	20.00	25.00	26.00	25.00	235.00
Alexandria Coal Co.,	24.00	22.00	27.00	24.00	23.00	25.00	25.00	26.00	26.00	24.00	26.00	25.00	297.00
Arena Gas Coal Co.,	14.50	13.50	16.75	12.00	17.50	18.00	21.50	25.00	21.50	25.50	24.50	27.25	232.50
American Steel Hoop Co.,	26.00	24.00	27.00	25.00	27.00	26.00	25.00	27.00	26.00	26.00	26.00	25.00	310.00
Derry Coal and Coke Co.,	26.00	24.00	27.00	25.00	24.00	26.00	25.00	27.00	26.00	24.00	26.00	26.00	303.00
Hempfield Coal Co.,	24.00	23.00	27.00	24.00	22.00	20.00	21.00	28.00	20.00	21.00	22.00	22.00	266.00
Latrobe Coal Co.,	23.75	21.75	25.00	23.00	21.50	22.50	24.50	26.75	25.75	25.75	25.00	25.00	290.25
Claridge Gas Coal Co.,	20.00	22.00	21.00	13.00	20.00	18.00	24.00	27.00	25.00	26.00	25.00	25.00	266.00
Manor Gas Coal Co.,	25.00	21.50	24.80	24.00	26.00	26.00	23.70	26.00	25.80	25.80	24.70	25.00	298.70
Corey Coal Co.,	26.00	20.00	25.00	21.00	26.00	26.00	22.00	24.00	22.00	24.00	25.00	24.00	285.00
Millwood Coal and Coke Co.,	23.00	22.00	24.00	23.00	22.00	20.00	20.00	22.00	22.00	24.00	23.00	25.00	270.00

J. A. Strickler Coke Co., Ltd.,	26.00	23.00	26.00	25.00	25.00	26.00	23.00	26.00	26.00	22.00	25.00	25.00	298.00
Spring Hill Gas Coal Co.,	26.00	24.00	27.00	25.00	27.00	26.00	26.00	27.00	26.00	26.00	26.00	26.00	312.00
M. Saxman, Jr. & Co.,	24.00	22.50	25.00	21.75	18.00	21.00	22.50	23.00	22.50	25.25	24.50	24.00	271.00
Blairsville Coke Co., Ltd.,	25.00	18.60	22.00	17.40	24.00	21.00	.....	22.00	24.00	23.00	26.00	25.00	241.00
Mather Coal and Coke Co.,	24.00	19.00	20.00	18.00	21.00	19.00	.....	.....	9.00	21.00	24.00	25.00	201.00
The Lacoster Coal Co.,	26.00	22.00	22.00	18.40	15.50	16.00	24.00	21.50	25.00	23.00	20.00	24.00	257.00
Robert Smith,	24.00	21.00	19.00	22.00	23.00	24.00	2.00	22.00	25.00	22.00	21.00	26.00	251.00
Braeburn Steel Co.,	26.00	24.00	27.00	25.00	26.00	26.00	25.00	27.00	26.00	26.00	25.00	25.00	308.00
Standard Connellsville Coke Co.,	26.00	22.00	24.00	24.00	26.00	25.00	25.00	24.00	22.00	22.00	25.00	24.00	288.00
Indiana Coal Co.,	.....	.....	.....	.....	.....	10.00	25.00	24.00	25.00	25.00	24.00	24.00	157.00
Bolivar Coal and Coke Co.,	24.00	21.00	22.00	22.00	24.00	23.00	23.00	25.00	24.00	26.00	23.00	25.00	282.00
Penn Manor Shaft Co.,	.....	.....	.....	.....	.....	.....	.....	29.50	21.25	23.00	25.00	25.00	115.00
Weinman Bros.,	26.00	24.00	26.10	23.00	21.00	26.00	24.00	27.00	26.00	26.00	26.00	25.00	300.00
G. Vogele,	26.00	24.00	26.00	25.00	26.00	26.00	25.00	25.00	25.00	25.00	25.00	25.00	303.00
W. J. Rainey,	.....	.....	.....	.....	.....	.....	19.00	26.00	26.00	27.00	25.00	27.00	150.00
Hampton Coal Co.,	24.00	21.00	16.00	14.00	16.50	13.40	10.00	16.00	10.00	.....	.....	.....	140.00

TABLE IV—List of fatal accidents that occurred in and about the mines of the Second Bituminous District, for the year ending December 31, 1899.

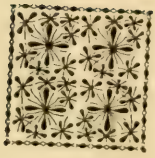
Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 12,	John Kadlujak,	Miner,	45	M.	4	Export,	Westmoreland,.	Fatally injured by a fall of slate.
16,	John Demmer,	Miner,	21	S.	....	Carbon,	Westmoreland,.	Fatally injured by a fall of roof
25,	Wm. Robison,	Driver,	18	S.	....	Loyalhanna No. 1,	Westmoreland,.	Instantly killed by being caught between wagons.
30,	A. Friedly,	Miner,	46	M.	5	Maher No. 2,	Indiana,	Fatally injured by a fall of slate.
Feb. 6,	Frank Abel,	Driver,	36	M.	3	Oak Hill No. 4,	Allegheny,	Fatally injured by being thrown from a trip of wagons.
9,	Wm. Farquhar,	Miner,	49	M.	3	Westmoreland Shaft,	Westmoreland,.	Fatally injured by a fall of slate.
20,	Ernest Jubin,	Engineer,	25	S.	....	Mammoth Shaft,	Westmoreland,.	Instantly killed by being caught between drum and engine bed.
Mar 18,	Joseph Perper,	Machine loader,	32	M.	5	Export,	Westmoreland,.	Instantly killed by a fall of slate.
April 7,	Andrew Johnston,	Miner boy,	14	....	....	Alexandria,	Westmoreland,.	Fatally injured by a fall of "horse-back" slate.
May 5,	John Leckyer,	Machinist,	40	M.	2	Alexandria,	Westmoreland,.	Killed by an explosion of gasoline.
12,	Andy Lash,	Miner,	32	M.	....	Loyalhanna No. 1,	Westmoreland,.	Instantly killed by a fall of "horse-back" slate.
23,	Eli Williams,	Miner,	46	M.	7	Central,	Westmoreland,.	Fatally injured by a fall of "horse-back" slate.
June 26,	James McLain,	Miner,	53	S.	....	Export,	Westmoreland,.	Fatally injured by being struck by a post while attempting to draw the same from under slate.
July 14,	Thomas W. Jenkins,	Miner,	45	M.	3	Oak Hill No. 4,	Allegheny,	Fatally injured by a fall of coal and slate.
Aug. 24,	Joseph Lissey,	Miner,	52	M.	3	Plum Creek,	Allegheny,	Fatally injured by a fall of coal and slate.
24,	Ignatz Slosser,	Miner,	39	M.	3	South West No. 3,	Westmoreland,.	Instantly killed by a fall of roof.
Sept. 21,	James Dunlap,	Roadman,	32	M.	2	Duquesne,	Allegheny,	Instantly killed by falling from trestle.
23,	Eugene Hong,	Miner,	26	M.	3	Derry Shaft,	Westmoreland,.	Fatally injured by fall of roof while drawing post.
23,	Antonio Lorisa,	Machine loader,	41	M.	1	Westmoreland Shaft,	Westmoreland,.	Fatally injured by a fall of slate
28,	Lemuel Young,	Miner,	23	S.	....	Arona,	Westmoreland,.	Instantly killed by a fall of slate.
Oct. 6,	James Larew,	Driver,	26	M.	1	Loyalhanna No. 1,	Westmoreland,.	Instantly killed by being caught between a wagon and coal pillar.
14,	Antonio Viecell,	Machine loader,	31	M	3	Westmoreland Shaft,	Westmoreland,.	Fatally injured by a blast.
24,	Stephen Pentanoff,	Machine loader,	40	M.	5	Westmoreland Shaft,	Westmoreland,.	Instantly killed by a fall of slate.

	27,	John Lea,	Miner,	22	S.	....	Central,	Westmoreland,.	Instantly killed by being run over by a trip of loaded wagons on haulage road.
Nov.	9,	Louis Bassino,	Miner,	24	M.	....	Ocean No. 1 Shaft,	Westmoreland,.	Fatally injured by being run over by a mine wagon.
	13,	Mark Wright,	Miner,	28	S.	....	Sandy Creek,	Allegheny,.....	Fatally injured by a fall of slate.
	15,	Louis Spesak,	Miner,	24	M.	....	Heela No. 2,	Westmoreland,.	Instantly killed by a fall of coal.
	17,	John Peaceski,	Miner,	32	S.	....	Claridge,	Westmoreland,.	Instantly killed by a fall of coal.
	17,	Paul Botsic,	Miner,	24	S.	....	Jamison No. 1,	Westmoreland,.	Instantly killed by a fall of coal.
Dec.	2,	John Rodashick,	Miner,	54	M.	3	Duquesne,	Allegheny,.....	Instantly killed by a fall of slate.
	9,	Antonio Narettot,	Miner,	51	M.	4	Larimer No. 4,	Westmoreland,.	Fatally injured by a fall of slate.
	11,	David Clark,	Driver,	19	S.	....	Oak Hill No. 5,	Allegheny,.....	Fatally injured by falling in front of loaded trip.
	11,	Cornelius Buckley,	Roadman,	23	S.	....	Standard Shaft No. 2,	Westmoreland,.	Instantly killed by a fall of slate.
	13,	Patrick L. Kiern,	Driver,	34	S.	....	Sandy Creek,	Allegheny,.....	Instantly killed by a loaded wagon running on him.
	16,	Andy Kollvic,	Miner,	34	M.	4	Marguerite,	Westmoreland,.	Instantly killed by a fall of "horseback" roof.
	23,	Jacob Halls,	Rope rider,	23	M.	....	Standard Shaft No. 2,	Westmoreland,.	Fatally injured; struck by empty trip on haulage road.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Second Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 3.	Jacob Urbine,	Miner,	29	S.	Claridge,	Westmoreland,.	Left arm broken and back bruised by fall of slate.
Feb. 6.	John Squibs,	Miner,	55	M.	Derry Shaft,	Westmoreland,.	Both legs broken by fall of roof.
16.	Joseph Gola,	Miner,	35	S.	Claridge,	Westmoreland,.	Leg broken by fall of coal.
Mar. 8.	Andrew Zenizal,	Miner,	26	S.	Penn Gas No. 2,	Westmoreland,.	Leg broken by fall of coal and slate.
29.	James Freeman,	Miner,	40	S.	Madison,	Westmoreland,.	Leg broken by fall of slate.
30.	Charles Gallagher,	Driver,	26	M.	Ocean No. 1,	Westmoreland,.	Arm crushed above elbow, fell in front of trip of cars.
April 13.	Anton Garuak,	Machine loader,	27	M.	Export,	Westmoreland,.	Bruised about hips and flesh wound in groin by fall of slate.
20.	John Martin,	Driver,	20	S.	Loyalhanna No. 1,	Westmoreland,.	Head cut and injured internally by falling in front of a trip of cars.
21.	John Paullis,	Miner,	40	W.	Loyalhanna No. 2,	Westmoreland,.	Leg broken and side injured by fall of slate.
21.	Pinazzi Oswaldo,	Machine loader,	38	M.	Export,	Westmoreland,.	Burned about face, hands and neck by an explosion of powder.
May 5.	Joseph Senaco,	Miner,	30	M.	Oak Hill No. 4,	Allegheny,	Thigh broken and foot bruised by stepping into a sheave wheel while it was moving.
9.	George Snyder,	Miner,	36	M.	Oak Hill No. 4,	Allegheny,	Compound fracture of thigh by fall of coal.
12.	Wm. M. Ashabaugh,	Driver,	28	M.	Coal Run,	Westmoreland,.	Partial paralysis; caught between top of loaded wagon and roof.
19.	Wm. Hamilton,	Miner,	27	M.	Arona,	Westmoreland,.	Compound fracture of left leg by fall of coal.
31.	Joseph Flowers,	Miner,	23	S.	Denmark,	Westmoreland,.	One eye blown out, the other injured, by a premature blast.
June 5.	Robert C. Smith,	Driver,	35	M.	Pleasant Valley,	Westmoreland,.	Right leg crushed by being run over by mine wagons, necessitating amputation above the knee.
12.	Andy Snary,	Miner,	26	M.	Larimer No. 4,	Westmoreland,.	Thigh and arm broken and ankle injured by fall of slate.
12.	David Thomas,	Miner,	40	M.	Penn Gas No. 2,	Westmoreland,.	Arm broken by being struck by a post while drawing the same on a pillar.

	24,	Marcus Sterner,	Miner,	30	S.	Arona,	Westmoreland,	Leg fractured above the knee by fall of slate.
	29,	August Beckman,	Miner,	32	M.	Oak Hill No. 4,	Allegheny,	Leg crushed above the knee by fall of slate, necessitating amputation.
July	15,	Albert Shedovitz,	Driver,	29	M.	Standard Shaft No. 2,	Westmoreland,	Leg broken by mine wagon; lost his light while attempting to sprag the same.
	25,	Frank Smoka,	Miner,	44	W.	Pleasant Valley,	Westmoreland,	Compound fracture of right leg, and left hip dislocated by fall of slate.
Aug.	5,	Cyrus McCartney,	Miner,	60	M.	Pleasant Valley,	Westmoreland,	Left leg broken in three places between knee and ankle by fall of coal and slate.
	7,	Alexander Baird,	Miner,	44	M.	Greensburg No. 2,	Westmoreland,	Leg broken below the knee by fall of slate.
	17,	Andy Stabock,	Miner,	34	M.	Hostetter,	Westmoreland,	Hip fractured and injured internally by fall of roof.
Sept.	6,	John Marcelia,	Miner,	34	M.	Oak Hill No. 4,	Allegheny,	Back dislocated by fall of slate.
	13,	Clart Fishel,	Driver,	18	....	Loyalhanna No. 1,	Westmoreland,	Left arm broken and injured about body by being caught between wagons.
	15,	James Morgan,	Miner,	43	M.	Hempfield,	Westmoreland,	Right leg broken above ankle and left hip injured by fall of "horse-back" slate.
	28,	John Soningg,	Miner,	57	M.	Carbon,	Westmoreland,	Both legs broken above the knees by fall of slate.
	29,	George Leneskey,	Miner,	40	M.	Spring Hill No. 2,	Allegheny,	Leg broken by fall of slate, necessitating amputation.
Oct.	4,	James McGill,	Boss driver,	32	M.	Central,	Westmoreland,	Collar bone broken, left shoulder dislocated, scalp wounds and right leg badly lacerated by a trip of wagons which wrecked on main haulage road.
	9,	Olen Swanson,	Miner,	44	M.	No. 1 "A" Shaft,	Westmoreland,	Arm broken at wrist by being caught between wagon and roof.
	16,	Nels Nelson,	Miner,	41	M.	Penn Gas No. 2,	Westmoreland,	Collar bone broken by fall of slate.
	21,	John Kaddock,	Miner,	25	S.	Oak Hill No. 4,	Allegheny,	Thigh and knee fractured by fall of slate.
	24,	Jacobs Peters,	Machine loader,	42	M.	Westmoreland Shaft,	Westmoreland,	Right leg fractured above ankle joint by fall of slate.
Nov.	8,	James Corhensby,	Oiler,	14	....	No. 1 "A" Shaft,	Westmoreland,	Shoulder bone broken by being caught between wagons.
	9,	John J. Donelly,	Driver,	23	M.	Arona,	Westmoreland,	Small bone in foot fractured by being caught between wagons.
	9,	Ben. Hughs,	Runner,	36	M.	Standard Shaft No. 2,	Westmoreland,	Injured internally by being caught between wagons.
	11,	Joe Gorman,	Miner,	33	M.	Calumet,	Westmoreland,	Right leg broken above ankle by slate sliding from gob.
Dec.	4,	Alex. Lehman,	Miner,	22	S.	Monastery,	Westmoreland,	Leg broken above ankle by fall of slate, necessitating amputation.
	8,	Simon Ruffner,	Miner,	26	S.	Greensburg No. 1,	Westmoreland,	Small bone in left leg broken by fall of coal.
	16,	Ernest Hankey,	Driver,	19	S.	Loyalhanna No. 1,	Westmoreland,	Foot injured by being caught between wagon and track.



Third Bituminous District.

ARMSTRONG, BUTLER, CLARION, INDIANA, JEFFERSON, LAWRENCE, MERCER, WESTMORELAND AND BEAVER COUNTIES.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: In compliance with the provisions of the Bituminous mining act, I herewith submit my annual report of the inspection of the mines of the Third Bituminous district for the year ending December 31, 1899.

There were eight lives lost this year against three for last year, and twenty-one non fatal accidents this year, against twenty-two last year. One of the inexplicable things is, why men will wilfully persist in violating the rules of mines when they know by sad experience that non-compliance with them will in all probability result in the loss of their lives. It would seem that the dreadful object lessons so frequently brought to the notice of workingmen would be sufficient for them to render implicit obedience to all the orders given by the mine officials, and to use all necessary precautions to secure their own safety, but with too many men heedlessness is the great defect of their nature. At least five of the fatalities this year were caused by the disobedience, imprudence and carelessness of the victims. Madden lost his life while he was doing work which was not in the line of his duties, and which he had been ordered not to do by the mine officials. Vanberg was fatally injured while he was riding on mine wagons which was contrary to regulations. Gulick was crushed to death while attempting to pass over the bottom of the hoisting shaft while the cages were in motion, although the mine foreman had warned him against doing it. Jones lost his life by his failing to properly secure his working place after having been ordered to do it, and Cheser was a victim to his own imprudence.

The statistics show that there has been an increase in the coal production of the district of 468,178 tons over that of last year; there were 349 fewer persons employed in and about the mines of the district this year than last although the mines were operated much more steadily during this year as there was an actual increase in the total number of days worked. The falling off in the number of persons employed was caused, no doubt, by the miners leaving the mines

to engage in other kinds of work for which they are receiving a much higher rate of wages.

All the mines of the district have been frequently visited by me during the year and they have been found in fairly good condition. tion.

I have described the condition of the mines, the cause of fatal accidents. The statistical tables have been given in another part of this report.

All of which is respectfully submitted.

THOMAS K. ADAMS,
Inspector.

The following is a summary of the mining statistics and a classification of the accidents in the district. The figures denoting production, shipments, etc., are short tons.

Number of mines in the district,	65
Number of mines in operation during 1899,	67
Number of tons of coal produced,	4,230,092
Number of tons shipped,	4,018,866
Number of tons used in the manufacture of coke,	164,561
Number of tons used for steam at the mines,	29,610
Number of tons sold to employes and others,	17,055
Number of tons produced by pick mining approximately,	2,846,623
Number of tons produced by compressed air machines approximately,	1,353,469
Number of tons produced by electrical machines approximately,	30,000
Number of coke ovens,	262
Number of tons of coke produced,	88,717
Number of persons employed inside of the mines,	5,538
Number of persons employed outside of the mines,	643
Number of mules in use inside of mines,	476
Number of fatal accidents,	8
Number of tons of coal produced per each fatal accident,	528,761.5
Number of non-fatal accidents,	21
Number of tons of coal produced per each non-fatal accident,	201,433
Number of persons employed per each fatal accident,	772.6
Number of persons employed per each non-fatal accident,	284.8
Number of wives left widows by accidents,	5
Number of orphans,	20
Number of kegs of powder used,	28,118
Number of pounds of dynamite used,	6,187
Number of cylindrical boilers in use,	26

Number of tubular boilers in use,	48
Number of steam locomotives,	2
Number of new mines opened,	4
Number of old mines abandoned,	7
Average number of days worked at all of the mines,	237.8

TABLE—Showing the total Tonnage, number of lives lost, tons of Coal produced per life lost, and Person Injured, total Number of Employes and Number of Employes per Life Lost and per Person Injured and the Average Number of Tons of Coal Produced per Employe.

Name of Companies.	Total number of tons of coal produced.	Number of lives lost.	Number of tons of coal produced per life lost.	Number of persons seriously injured.	Number of tons of coal produced per person seriously injured.	Total number of persons employed.	Number of persons employed per life lost.	Number of employes per person injured.	Average number of tons of coal produced per employe.
W. F. Clayton	6,227					11			
Connessing Coal Co.	9,886					33			
Waregum Run Coal Co.	24,242					39			
Avondale Mining and Manufacturing Co.	19,485					41			
Pine Run Coal and Coke Co.	52,672					69			
Acme Coal and Coke Co.	113,682			5	22,736	117		25	
West Penn Mining Co.	23,199					36			
Gilpin Coal Co.	35,147					76			
Foley Brothers	63,710					115			
George G. Stage	32,979					78			
George E. Teger	42,562					86			
C. E. Butler	53,284					71			
W. H. Wagner	55,447					88			
J. W. Gaines	35,746					91			
Baxter Coal and Coke Co.	90,188	1	90,188			155	155		
Lewis Coal Co.	49,637					96			
Bazaleel Coal and Coke Co.	34,625			1	34,625	59		59	
Hadley Coal Co.	29,585					53			
Hill Coal Co., Limited	54,019			1	54,019	86		86	
Leesburg Coal and Coke Co.	82,887			1	82,887	127		127	
Rembrandt R. Peale	73,998	1	73,998			125	125		
F. A. Mazner	73,925	1	73,925			125	125		
Peter Smith & Co.	130,145	1	130,145			267	267		
Rosenew Coal Mining Co., Ltd.	71,935			2	35,967	117		58	
Jos. G. Beale	22,768					45			
Jos. G. Beale & Co.	28,770			1	28,770	51		51	
Bates Canned Coal Co.	30,578					49			
Carter Coal Co.	31,825					44			
Cutlets Run Coal Co.	15,120			1	15,120	43		43	
Carrier Brothers	11,944					58			
Cherry Run Coal and Mining Co.	18,737			1	18,737	56		56	
Peter S. Sherwin	28,155					39			
Fourth-cut Coal and Coke Co.	447,166	1	447,166	1	447,466	661	661	661	

J. R. Smith,	39,000					33			
Henry Brothers,	24,577					53			
Grove Coal Co.,	85,415					116			
Keystone Coal Mining Co.,	59,985					78			
Kirkpatrick & Co., Limited,	35,552					29			
Kerr Coal Co.,	6,520					17			
Jefferson and Clearfield Coal and Iron Co.,	1,432,343	3	477,448	6	238,724	1,755	581	292	
C. P. McCafferty,	34,200					61			
Mineral Ridge Coal Co.,	47,269					67			
Oak Ridge Mining Co.,	132,727					222			
Penn Coal Co.,	23,042					47			
Royle Coal Co.,	22,991					43			
Mercer Iron and Coal Co.,	85,677					167			
Thompson Run Coal Co.,	57,649					102			
Turner Coal, Coke and Mining Co.,	45,210			1	45,210	54		104	
Mebard Coal Co.,	11,250					25			
State Line Coal Co.,	105,010					180			
Hickory Coal Co.,	25,000					65			
M. A. and Joseph Lehner,	44,404					71			
Total and average,	4,229,263	8	528,678	21	201,293	6,189	773	294	683.3

TABLE D—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured.	Injured.	Total.
Falls of coal and roof,	3	10	13
Explosions of gas,	.....	1	1
Explosions of blasts,	.....	.....	.....
By mules,	.....	.....	.....
Cars inside,	4	6	10
Cars outside,	.....	1	.....
Falling down shafts,	.....	.....	.....
Breaker machinery,	.....	.....	.....
Careless use of powder,	.....	.....	.....
Miscellaneous inside,	1	3	4
Miscellaneous outside,	.....	.....	.....
Total,	8	21	29

TABLE E—Occupations of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners,	2	14	16
Drivers,	2	4	6
Scrapers after machines,	3	.....	3
Cagers,	1	.....	1
Check weighmasters,	.....	1	1
Weighmaster,	.....	1	1
Pick boy,	.....	1	1
Total,	8	21	29

TABLE F—Nationality of Persons Killed and Injured.

	American.	Irish.	Scotch.	English.	Germans.	Swedes.	Poles.	Italians.	Totals.
Killed,	4	2	.....	.....	.....	1	.....	1	8
Injured,	14	..	1	1	3	1	1	....	21
Totals,	18	2	1	1	3	2	1	1	29

TABLE—Giving name of mine, method of haulage, ventilation whether drift, slope or shaft, pick or machine mine, in the Third Bituminous District.

Name of Mine.	Haulage.	Fan or Furnace.	Drift, Slope or Shaft.	Pick or Machine.	Type of Machine.	Power Used with Machines.
Avondale,	Mules,	Furnace,	Drift,	Pick.		
Alladin,	Mules,	Furnace,	Drift,	Pick.		
Avonmore,	Mules and rope,	Furnace,	Drift,	Pick.		
Beaver,	Mules and rope,	Fan,	Drift,	Pick and machines,	Ingersol,	Compressed air.
Beale,	Mules,	Furnace,	Drift,	Pick.		
Blackstone,	Mules,	Furnace,	Drift,	Pick.		
Bagdad No. 2,	Mules,	Furnace,	Drift,	Pick.		
Bloomington No. 9,	Mules,	Fan,	Drift,	Pick.		
Butts Cannel,	Mules,	Fan,	Shaft,	Pick.		
Carver,	Mules,	Fan,	Shaft,	Pick.		
Clayton,	Mules,	Furnace,	Drift,	Pick.		
Carrier,	Mules,	Furnace,	Drift,	Pick.		
Catfish Run,	Mules,	Furnace,	Drift,	Pick.		
Cherry Run,	Mules,	Furnace,	Drift,	Pick.		
Connessing,	Mules,	Furnace,	Drift,	Pick.		
Diamond,	Mules,	Furnace,	Drift,	Pick.		
Diamond No. 1,	Mules,	Fan,	Shaft,	Pick.		
Diamond No. 2,	Mules,	Fan,	Shaft,	Pick.		
Enterprise,	Mules,	Furnace,	Drift,	Pick.		
Sherwin,	Mules and rope,	Fan,	Slope,	Pick.		
Excelsior No. 2,	Mules,	Furnace,	Drift,	Pick.		
Eagle,	Mules and rope,	Furnace,	Drift,	Pick.		
Fairmount No. 1,	Mules and rope,	Fan,	Drift,	Pick and machines,	Harrison,	Compressed air.
Fairmount No. 2,	Mules and rope,	Fan,	Drift,	Pick.		
Fairmount No. 4,	Mules and rope,	Fan,	Drift,	Pick and machines,	Harrison,	Compressed air.
Glen,	Mules,	Furnace,	Drift,	Pick.		
Gilpin,	Mules,	Furnace,	Drift,	Pick.		
Henry,	Mules,	Furnace,	Drift,	Pick.		
Hickory,	Mules,	Fan,	Shaft,	Pick.		
Hill,	Mules and rope,	Fan,	Drift,	Pick.		
Hallville,	Mules,	Furnace and exhaust steam.	Slope,	Pick.		
Enterprise,	Mules,	Fan,	Shaft,	Pick.		
Haddon,	Mules,	Furnace,	Drift,	Pick.		
Keystone No. 1,	Mules,	Fan,	Drift,	Pick.		
Keystone No. 2, Butler Co.,	Mules,	Furnace,	Drift,	Pick.		
Keystone No. 2, Clarion Co.,	Mules,	Furnace,	Drift,	Pick and machines,	Jeffrey,	Electricity.
Kirkpatrick,	Mules,	Furnace,	Drift,	Pick.		
Kerr,	Mules,	Furnace,	Drift,	Pick.		
Lake Erie,	Mules,	Furnace,	Drift,	Pick.		
Mizner,	Mules,	Furnace,	Drift,	Pick.		
Leechburg No. 1,	Mules,	Furnace,	Drift,	Pick.		

TABLE—Giving name of mine, method of haulage, ventilation whether drift, slope or shaft, pick or machine mine, in the Third Bituminous District—Continued.

Name of Mine.	Haulage.	Fan or Furnace.	Drift, Slope or Shaft.	Pick or Machine.	Kind of Machine	Power Used with Machines.
Riverview,	Mules,	Furnace,	Drift,	Pick.		
Maplewood,	Mules and rope,	Fan,	Drift,	Pick and machines,	Harrison,	Compressed air.
Hannastown,	Mules and rope,	Fan,	Drift,	Pick and machines,	Harrison,	Compressed air.
Rathmel,	Mules and rope,	Fan,	Drift,	Pick and machines,	Harrison,	Compressed air.
Soldier Run No. 1,	Mules and rope,	Fan,	Drift,	Pick and machines,	Harrison,	Compressed air.
Soldier Run No. 2,	Mules and rope,	Fan,	Drift,	Pick and machines,	Harrison,	Compressed air.
Sherwood,	Mules,	Furnace,	Drift,	Pick.		
Virginia,	Mules and rope,	Fan,	Drift,	Pick and machines,	Harrison,	Compressed air.
Monarch,	Mules,	Furnace,	Drift,	Machines,	Sullivan,	Compressed air.
Mehard,	Mules,	Furnace,	Drift,	Pick.		
Mineral Ridge,	Mules,	Furnace,	Drift,	Pick.		
Oak Ridge,	Mules and rope,	Fan,	Drift,	Pick.		
Pagoe,	Mules and locomotive,	Fan,	Drift,	Pick.		
Penn,	Mules,	Furnace,	Drift,	Pick.		
Pine Run,	Mules,	Furnace,	Drift,	Pick.		
Pine Creek,	Mules,	Furnace,	Drift,	Pick.		
Rock Point,	Mules,	Furnace,	Drift,	Pick.		
Ryde,	Mules,	Furnace,	Drift,	Pick.		
Riverview,	Mules and rope,	Fan,	Drift,	Pick.		
State Line,	Mules and rope,	Fan,	Drift,	Pick.		
Sterling,	Mules and rope,	Fan,	Drift,	Pick.		
Sturgis,	Mules,	Furnace,	Dritt,	Pick.		
Stonebore No. 2,	Mules,	Furnace,	Slope,	Pick.		
Stonebore No. 3,	Mules and rope,	Fan,	Slope,	Pick.		
Thompson Run,	Mules,	Fan,	Drift,	Pick.		
West Penn,	Mules,	Furnace,	Drift,	Pick.		
Spears,	Mules,	Natural,	Slope,	Pick.		

Description of Mines Located Along the Allegheny Valley Railroad in Armstrong and Clarion Counties.

All the mines (eight in number), which are located in this division of the district have been in active and constant operation during the year. The operators, like all other business men who are engaged in other branches of industry in this county, are at the present time experiencing quite a boom in their trade. They are getting better prices for their product and have plenty of orders ahead. There has not been any trouble between the operators and miners about prices in this region during the year.

I find the mines in this region, with but few exceptions, in a very healthful and safe condition. The Aladdin, Glen, Riverview, Monarch, Catfish Run and Mineral Ridge mines at my last visit to them, were in a very good condition. There was a good volume of air in all of the mines, and the drainage was excellent. At the Aladdin mine a new ventilating furnace was built, and an air shaft sunk during the year.

At my last visit I found the old workings of the Pine Creek mine in good condition, but the workings in the new division of it were not adequately ventilated owing to the ventilating arrangements not being completed.

When I last visited the Eagle mine I had to order the operations to be stopped until the ventilating shaft, which they had already sunk to the coal, was connected with the inner workings thereof. This connection was made with all haste. The drainage, especially in the rooms, was not very good.

Mines Located on the Low Grade Division and Sligo Branch of the Allegheny Valley Railroad.

There have not been any new mines opened, nor any exhausted in this section of the district during the year. The nine mines in this region are being operated steadily at the present time and the operators find a ready market for all the coal they can produce. More miners could find employment at these mines if they could be had.

The Carrier, Avondale and Diamond mines were in very good condition in regard to ventilation, drainage and general safety.

At the Keystone mine I had to stop (at my second last visit to it) several men from working therein, owing to their having been working in rooms and on pillars which were ahead of the air current. I ordered several necessary improvements to the ventilation, drainage and the traveling way which required me to make another visit to it to see whether or not my orders were being complied with by the

mine officials. Upon my return I found my recommendations were being carried out with all expedition.

At my last visit to the Cherry Run mines I found the coal being hauled through a passage way which had been made through an abandoned room, which I considered unsafe, and orders were given to the mine officials to cease hauling coal by that route until it was made perfectly safe. I recommended that a new haulage-way be made and the present one be abandoned entirely, which was agreed to by the mine officials. The current of air was not very strong at the face of the workings in the mine, although there was a lawful quantity measured passing at its main openings.

At Fairmount mine Nos. 1 and 3, I found a great deal of black-damp being produced in the pillar workings in the No. 3 division of it. Although a volume of air as required by law was in circulation in these pillar workings, yet the atmosphere was very impure. Everything will be done, however, to increase the volume of air until the pillars can be extracted which will be accomplished in a short time. The main part of the workings of this mine was in a fair condition both in regard to ventilation and drainage. In the No. 2 mine, which is opened on a lower seam, the workings of which being directly beneath the workings of Nos. 1 and 3 mines were very well ventilated and drained.

At my second last visit to the Fairmount mine No. 4, I was required to complain to the mine officials about the shortage of air in it and the faulty manner which prevailed in conducting and distributing it to the working faces. At my last visit, however, I found a wonderful change in the conditions as there was a good quantity of air circulating throughout all of the workings of the mine.

The general condition of the Oak Ridge mine is reasonably good. There was a large quantity of air in circulation in the different divisions of the mine, except in two of the entries where the air current was not strong enough. The drainage was reasonably good but two of the entries were muddy.

Mines Situated in the Reynoldsville Region, Jefferson County.

There are nine mines in this region, six of which have been operated very steadily during the year. Seven of these mines, Soldier Run Nos. 1 and 2, Hamilton, Virginia, Maplewood, Rathmel and Sherwood, are operated by the Jefferson-Clearfield Coal and Iron Co. The Sherwood mine has been practically idle for several months, which was caused by the company suspending operations until they could introduce coal cutting machinery of the Harrison type therein. This has

heretofore been a pick mine, but hereafter it will be operated by machinery.

The Rathmel mine is but very recently opened, and as it is being developed, more miners are being employed. This is also a machine mine. The seam (Lower Freeport) is reached by a drift opening, and it is being developed on the double entry plan. A six foot diameter fan has been erected for ventilating purposes and the tail rope system of haulage has been introduced. The mine was in excellent condition both in regard to ventilation and drainage.

The Virginia and Maplewood mines are worked on the three entry plan with the center one being used as the inlet air course. The fans at these two mines are entirely too small to produce a sufficient quantity of air to secure the ventilation expected by the mine officials except by their introducing this excellent system of conducting the air through them. These two mines are not very old yet, and as might be expected they are very well ventilated. The drainage was good on the haulage roads, but many of the room workings were under water.

Hamilton mine was in very good condition. There was a strong current of air in nearly all of the workings of the mines, and the drainage thereof was reasonably good.

There are two divisions to Soldier Run mine. No. 1 was in very good condition. As there is such a large number of persons employed and a large quantity of powder used in this mine, it requires a very large volume of air to keep it in anything like a proper sanitary condition. At my last examination I measured 118,400 cubic feet of air being produced for both divisions of it, by the 25 foot diameter fan, which was running at 60 revolutions per minute, with an indicated W. G. of one and four-tenths inches. There was a sufficient quantity of air circulating in the No. 1 division, but No. 2 had not an adequate supply of air at the face of the workings. The company, however, is sinking a large air shaft at the very face of the workings, and the mine officials are having brick stoppings built all along the line of the main air course, therefore an increase in the quantity of air may be expected when these improvements are completed. Other improvements (such as the constructing of several overcasts), are being made in the No. 2 mine, so as to secure a better distribution of the volume of air than exists at the present time.

The Henry and Bloomington mines are both well ventilated and drained. The Bloomington mine has not been in operation much during the year.

Mines Situated in Beaver and Lawrence Counties.

All of the eleven mines, which are located in this part of the district, are in active operation at the present time.

The Beaver mine is in very good condition generally. There was an adequate quantity of air in circulation in all of the workings and the drainage was very good. A new drift opening is being made here, and an entirely new plant outside is being constructed, thus securing a shorter haul for the coal and giving the company much better shipping facilities than they have at the old one.

The Connessing, Mehard and Excelsior No. 2 mines are considered as small operations according to their present development, and are in reasonably fair condition both in regard to ventilation and drainage, with the exception of a few places in two of them (Excelsior No. 2 and Mehard) where the roads were somewhat muddy. Excelsior No. 2 mine is practically exhausted, but a No. 3 opening is being developed to take its place.

At the Rock Point mine an ample volume of air was being produced and well distributed to the face of the workings. The drainage was reasonably good.

At Thompson Run mine a new 7 foot fan, which is driven by a gasoline engine, has been erected. It was producing about 16,400 cubic feet of air per minute which was an adequate quantity for such a mine. A gasoline pump is used to pump the water from the inner workings of the mine to the main drainage way. The drainage is reasonably good.

The Sterling mine is well ventilated and the drainage reasonably good.

The Butts Cannel shaft is in splendid condition both in regard to its ventilation, drainage and general safety.

At the State Line mine there was a good supply of air in circulation. Since my last visit a new ventilating fan has been erected at an opening near the face of the workings. This is a substitute for the old one which was located at the mouth of the mine, a distance of over one mile from the working faces.

The Penn mine is about exhausted. Some of the hauling roads here were wet and muddy, hence the general condition was not very good.

Not knowing until very recently that the Clayton mine was again being operated with a sufficient number of persons to bring it under the provisions of the mining law it has not yet been visited by me.

Mines Located Along the West Penn Railroad in Westmoreland and Armstrong Counties.

The twelve mines in this region have been doing a good business during the year. Owing to eleven of these mines being operated almost under similar conditions, as to methods of working out the coal seam, ventilating powers used, excellent roof, thinness of coal seam and their freedom from water, their general conditions as to healthfulness and safety are very good. There is a good supply of air circulating in all of these mines, and although the natural conditions are not as favorable in the Avonmore mine as exist at the others, yet through the vigilance and care exercised by the mine officials and miners employed therein, mining is rendered as safe as possible for the workingmen. Except in a couple of entries where the air current was not very strong, the mine was well ventilated and the drainage reasonably good. A tail rope system of haulage has been put in operation at this mine lately and it will, no doubt prove to be a success.

Mining machinery is being introduced at the Beale mine.

Mines Located Along the Bessemer, Pittsburgh and Lake Erie Railroad and in Other Parts of Butler and Mercer Counties.

The companies operating the eighteen mines in this part of the district have had a very prosperous year. The "Enterprise," "Royle," "Lake Erie," and "Standard" mines, which are located in Butler county, are small operations, and at my last examination I found them in very good condition. The Lake Erie and Standard mine will soon be exhausted. At the Standard slope, another slope opening is being sunk on the opposite side of the railroad from it, which will take the place of the old one.

The Stage mine is in very good condition generally. An ample volume of air is produced which is being well distributed to the face of the workings. The drainage is also good.

A fair quantity of air is being produced at the Minzer mine at the present time. An opening is being made to the outside from near the face of the inner workings of the mine, which when completed will increase the volume of air. This improvement will be very advantageous, both in regard to ventilation and drainage.

At the Keystone mines Nos. 1 and 2, the ventilation was not as good as it should have been. It was very evident to me from close observation that the details, which are always necessary to be attended to in order to secure sufficient ventilators in any mine, had been much neglected by the mine officials. In No. 2 mine the air was not near enough to the face of the workings, and especially was this

the case in one of the entries. There was, however, a sufficient volume of air being produced in this mine. In No. 1 mine the ventilating improvements were begun there some time ago, but they were not yet completed at the time of my last visit, therefore, the air current was too far back from the face of the main entry. This defect would be remedied soon. The drainage at both of these places was very good.

At the Enterprise mine which is located in Mercer county a new 6 foot diameter Clark fan has been erected which has improved the ventilation therein very much. This is an extremely wet mine, which makes it very uncomfortable for men to work in. The water pours from the roof strata of the mine in large quantities, which makes it very expensive to maintain good drainage.

The Diamond Mine No. 1 was in a very fair condition although there were some parts of it where the drainage was defective. There was only one entry of this mine in which the quantity of air was not sufficient. This was caused by a disarrangement in the method of conducting the air current. In No. 2 mine the air current was not strong enough at the face of some of the entries. This defect was caused by the excessive leakage of the air current at the numerous room doors it had to pass before it reached the inner workings. This mine is worked on the single entry system and wherever that system is adopted and the workings of the mine are extensive, it is almost an impossibility to maintain efficient ventilation.

The drainage at some points in this mine was defective.

The Hallville mine will soon be exhausted. I found it in a fair condition generally.

At the Pardoe mine a new drift opening has been completed very recently. It is located near the face of the workings, and the product of the mine is taken from it by way of this new outlet. The new opening has improved the inside conditions of the mine very much and there should be no trouble in draining it properly hereafter. The ventilation was reasonably good.

The Hickory shaft is a new concern which was opened and came under the requirements of the mining law this year during the month of March. A 10 foot diameter fan has been erected to produce the ventilation, and a new second opening has been sunk and completed lately. This shaft is 93 feet deep; its size is 8'x16', height of the hoisting frame 55 feet and the tipple height is 32 feet. The hoisting engine is 125 H. P. and the boiler for producing steam is 17 feet long and 6 feet in diameter.

At the Hill mine the ventilation was reasonably good, except at the face of No. 12 entry where the air current was not very strong. The drainage was reasonably good. A new shaft has been sunk near the

face of the workings which will serve the double purpose of an exit for air and water.

The Carver mine was reasonably well ventilated. This is a very wet mine, but drainage is reasonably well maintained. This mine has not been operated with its usual force of men during the year, and has not been producing coal to its full capacity.

The Stoneboro mine No. 2 has just recently resumed operations after its abandonment for a year. The officials had not all the repairing completed and the mine put in proper condition at the date of my last visit, but it is being put in proper order as rapidly as possible by a large force of repairmen.

The Stoneboro mine No. 3 was in a very fair condition in regard to ventilation and drainage. This mine has been operated very steadily during the year.

TABLE I—Showing Names of Operators, etc., etc., and Location of Collieries in the Third Bituminous District, 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Avondale,	Clarion,	Avondale Mining and Manufacturing Co.		
Aladdin,	Armstrong,	Jas. G. Beale.		
Avonmore,	Armstrong,	Avonmore Coal and Coke Co.,	Alfred Hicks,	Pittsburgh.
Beaver,	Lawrence,	Beaver Coal and Coke Co.		
Beale,	Armstrong,	Jas. G. Beale & Co.,	Jas. G. Beale,	Leechburg.
Blackstone,	Westmoreland,	Lewis Coal Co.,	Alfred Hicks,	Pittsburgh.
Bagdad,	Westmoreland,	Bagdad Coal and Coke Co.,	Alfred Hicks,	Pittsburgh.
Bloomington No. 2,	Jefferson,	Rembrandt R. Peale,	Alex. Dumsmore,	Glen Richey.
Butts-Cannel,	Beaver,	Butts Cannel Coal Co.		
Carver,	Mercer,	Carver Coal Co.,	Enoch Filer, Sr.,	Sharon.
Clayton,	Beaver,	W. T. Clayton.		
Carrier,	Jefferson,	Carrier Brothers.		
Catfish Run,	Clarion,	Catfish Run Coal Co.		
Cherry Run,	Clarion,	Cherry Run Coal and Mining Co.,	E. N. Miller,	Huey P. O.
Conessing,	Beaver,	Conessing Coal Co.		
Diamond,	Clarion,	J. W. Ganoe,	J. W. Ganoe,	Phillipston.
Diamond No. 1,	Mercer,	Filer, Sutliff & Co.,	Enoch Filer, Sr.,	Sharon.
Diamond No. 2,	Mercer,	Filer, Sutliff & Co.,	Enoch Filer, Sr.,	Sharon.
Enterprise,	Butler,	Peter D. Sherwin.		
Sherwin,	Butler,	Peter D. Sherwin.		
Excelsior No. 2,	Lawrence,	Wampum Run Coal Co.		
Eagle,	Clarion,	M. A. and Joseph Lehner.		
Fairmount No. 1,	Armstrong,	Fairmount Coal and Coke Co.		
Fairmount No. 2,	Armstrong,	Fairmount Coal and Coke Co.		
Fairmount No. 4,	Armstrong,	Fairmount Coal and Coke Co.		
Glen,	Armstrong,	J. R. Smith.		
Gilpin,	Armstrong,	Gilpin Coal Co.,	Alfred Hicks,	Pittsburgh.
Hickory,	Mercer,	Hickory Coal Co.		
Hill,	Mercer,	Hill Coal Co., Limited.		
Hallville,	Mercer,	Grove Coal Co.,	I. V. Morris,	Cleveland, Ohio.
Enterprise,	Mercer,	Grove Coal Co.,	I. V. Morris,	Cleveland, Ohio.
Haddon,	Armstrong,	Haddon Coal Co.,	Alfred Hicks,	Pittsburgh.
Keystone No. 1,	Butler,	Turner Coal, Coke and Mining Co.,	John L. Turner,	Ferris P. O.
Keystone No. 2,	Butler,	Turner Coal, Coke and Mining Co.,	John L. Turner,	Ferris P. O.
Keystone No. 3,	Clarion,	Keystone Coal Mining Co.,	George E. Henry,	East Brady.
Kirkpatrick,	Armstrong,	Kirkpatrick & Co., Limited,	R. D. Campbell,	Leechburg.
Kerr,	Armstrong,	Kerr Coal Co.,	G. B. Findley,	Freeport.
Mizner,	Butler,	F. A. Mizner.		
Riverview,	Westmoreland,	Leechburg Coal and Coke Co.,	Alfred Hicks,	Pittsburgh.
Maplewood,	Jefferson,	Jefferson Clearfield Coal and Iron Co.		
Hamilton,	Jefferson,	Jefferson Clearfield Coal and Iron Co.		
Rathmel,	Jefferson,	Jefferson Clearfield Coal and Iron Co.		
Soldier Run No. 1,	Jefferson,	Jefferson Clearfield Coal and Iron Co.		
Soldier Run No. 2,	Jefferson,	Jefferson Clearfield Coal and Iron Co.		
Virginia,	Jefferson,	Jefferson Clearfield Coal and Iron Co.		
Sherwood,	Jefferson,	Jefferson Clearfield Coal and Iron Co.,	L. W. Robinson,	Rochester, N. Y.

Monarch,	Clarion,	C. P. McCafferty,	C. P. McCafferty,	East Brady.
Mohard,	Lawrence,	Mohard Coal Co.		
Mineral Ridge,	Clarion,	Mineral Ridge Mining Co.,	C. W. H. Eicke,	West Monterey.
Oak Ridge,	Armstrong,	Oak Ridge Mining Co.		
Pardoe,	Mercer,	Filer Brothers,	H. J. Filer,	Sharon.
Penn,	Lawrence,	Penn Coal Co.,	Edwin N. Ohl,	New Castle.
Pine Run,	Westmoreland,	Pine Run Coal and Coke Co.,	Alfred Hicks,	Pittsburgh.
Pine Creek,	Armstrong,	C. E. Butler,	C. E. Butler,	Mosgrove.
Rock Point,	Lawrence,	George E. Tener.		
Royle,	Butler,	Royle Coal Co.,	R. E. Royle,	Hilliard.
Riverview,	Armstrong,	Riverview Coal Mining Co., Ltd.		
State Line,	Beaver,	State Line Coal Co.,	James Mullins,	Wooster, Ohio.
Sterling,	Beaver,	W. H. Warner,	John Hileman,	Cannelton.
Stage,	Butler,	George G. Stage,	James Welsh,	Coaltown.
Stoneboro No. 2,	Mercer,	Mercer Iron and Coal Co.,	Robt. P. Cann,	Stoneboro.
Stoneboro No. 3,	Mercer,	Mercer Iron and Coal Co.,	Robt. P. Cann,	Stoneboro.
Thompson Run,	Beaver,	Thompson Run Coal Co.,	Wm. Douthitt,	New Castle.
West Penn,	Westmoreland,	West Penn Mining Co.,	Alfred Hicks,	5593 Baum St., East End. Pittsburgh.
Spears,	Mercer,	J. J. Spears.		
Hickory Shaft,	Mercer,	Hickory Coal Co., Ltd.,	Joseph Davis.	

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Inside Foreman.	Name of Outside Foreman.
Avondale,	James Mitchell,	Lawshonham,	James Mitchell.	
Aladdin,	E. H. Beale,	Lucesco,	John E. Young.	
Avonmore,	L. W. Hicks,	Leechburg,	Alex. M. Oliver.	
Beaver,	H. K. Hartsuff, Jr.,	Wampum,	J. B. Williams.	
Beale,	George Knepshield,	Leechburg,	Nicholas Smith.	
Blackstone,	N. S. Hicks,	Leechburg,	Thomas Hodge.	
Bagdad,	N. S. Hicks,	Leechburg,	Robert Crawford.	
Bloomington No. 9,	John C. Dunsmore,	Reynoldsville,	George Snedden.	
Butts-Cannel,	George Gould,	East Palestine, Ohio,	George Gould.	
Carver,	F. P. Filer,	Mercer,	Samuel Edge.	
Clayton,	W. F. Clayton,	Beaver Falls,	M. Beighley.	
Carrier,	Wm. H. Carrier,	Summerville,	Phillip Nicholas.	
Catfish Run,	C. J. Tighe,	Catfish,	Thos. J. Foster.	
Cherry Run,	E. N. Miller,	Huey P. O.,	Reese Williams.	
Connessing,	J. Wylie,	Ellwood,	Thomas Stratton.	
Diamond,			J. L. Rankin.	
Diamond No. 1,	F. P. Filer,	Mercer,	Frank Spencer.	
Diamond No. 4,	F. P. Filer,	Mercer,	Frank Spencer.	
Enterprise,			M. L. Matheney.	
Sherwin,			John H. Lane.	
Excelsior No. 2,	Matthew Gunton,	Wampum,	Archie Lafferty,	Chas M. Harvey.
Eagle,	Joseph Lehner,	Red Bank Furnace,	James Curren.	
Fairmount No. 1,	S. Taylor Sheaffer,	New Bethlehem,	John Miller, Asst. M. F.	
Fairmount No. 2,	S. Taylor Sheaffer,	New Bethlehem,	Ed. Lace.	
Fairmount No. 4,	S. Taylor Sheaffer,	New Bethlehem,	Wm. T. Lace.	
Glen,	J. M. Foltz,	Manorville,	Daniel Lowers.	
Gilpin,	L. W. Hicks,	Leechburg,	Robert Briggs.	
Hickory,	Frank P. Wick,	Bowie P. O.,	Charles Whitlatch.	
Hill,	Wm. Jenkins,	Jackson Center,	Wm. Jenkins.	
Hallville,	D. D. Morris,	Grove City,	J. C. Allen.	
Enterprise,	D. D. Morris,	Grove City,	Andrew Snedden.	
Haddon,	N. S. Hicks,	Leechburg,	John N. Crawford.	
Keystone No. 1,	John A. Turner,	Ferris P. O.,	T. J. Simpson.	
Keystone No. 2,	John A. Turner,	Ferris P. O.,	Reese Williams.	
Keystone No. 3,	John Henry,	East Brady,	John I. Humphreys.	
Kirkpatrick,			S. T. Shoff.	
Kerr,			Michael McQuade.	
Mizner,	George Findley,	Hilliard,	George Findley.	
Riverview,	N. S. Hicks,	Leechburg,	A. A. Lessig.	
Maplewood,	John H. Bell,	Reynoldsville,	John Ward.	
Hamilton,	John H. Bell,	Reynoldsville,	Richard Taafe.	
Rathmel,	John H. Bell,	Reynoldsville,	P. J. Skehan.	
Soldier Run No. 1,	John H. Bell,	Reynoldsville,	John E. Morton.	
Soldier Run No. 2,	John H. Bell,	Reynoldsville,	Josiah Gregory.	
Virginia,	John H. Bell,	Reynoldsville,	Peter Robertson.	
Sherwood,	John Reed,	Du Bois,	John Ashley.	

Monarch,	C. P. McCafferty,	East Brady,	Caleb Oakes.	
Mehard,	Robert Mehard,	Coverdale,	Edward Dougherty.	
Mineral Ridge,			Jacob Rosenhofer.	
Oak Ridge,	Henry Williams,	Oak Ridge Station,	Henry Williams.	
Pardoe,	E. L. Filer,	Pardoe,	E. L. Filer.	
Penn,	Edwin Cook,	New Castle,	Edwin Cook.	
Pine Run,	L. W. Hicks,	Leechburg,	Andrew J. Watson.	
Pine Creek,	John L. Murray,	Mosgrove,	John L. Murray.	
Rock Point,	Wm. Brown,	Wampum,	Arthur V. Berry.	
Royle,	R. E. Royle,	Hilliard,	James Robertson.	
Riverview,	John Doyle,	Cosmus,	John Doyle.	
State Line,	Hugh Laughlin,	East Palestine, Ohio.	George Sutherin.	
Sterling,	John Hileman,	Cannelton,	Jacob Ashman.	
Stage,	James Welsh,	Coaltown,	James Welsh.	
Stoneboro No. 2,	B. F. Esgar,	Stoneboro,	Herbert Edwards.	
Stoneboro No. 3,	B. F. Esgar,	Stoneboro,	Benj. F. Esgar.	
Thompson Run,	F. H. Douthitt,	Caylor's Ferry,	John Marshall, Jr.	
West Penn,	L. W. Hicks,	Leechburg,	Harry McKallip.	
Spears,	James A. Spears,	Grove City,	James A. Spears.	
Hickory Shaft,	Frank P. Wick,		Chas. Whitelatch,	G. N. Infield.

TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Third Bituminous District for the year ending December 31, 1899.

Name of Company and Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.
Avondale Mining & Manufacturing Co.												
Avondale,	Clarion,	19,445	12	28	19,485	.....	194	41	.....	.....	.....	.....
Joseph G. Beale.												
Aladdin,	Armstrong,	22,632	36	100	22,768	.....	279	45	.....	.....	120	200
Avonmore Coal & Coke Co.												
Avonmore,	Armstrong,	113,682	.....	.....	113,682	.....	272	117	.....	5	.....	.....
Beaver Coal and Coke Co.												
Beaver,	Lawrence,	89,320	426	442	90,188	.....	260	155	1	.....	584	.....
Jos. G. Peale & Co.												
Beale,	Armstrong,	20,000	50	8,680	28,730	.....	264.50	51	.....	1	400	.....
Lewis Coal Co.												
Blackstone,	Westmoreland,	49,537	100	.....	49,637	.....	295	69	.....	.....	500	600
Bagdad Coal & Coke Co.												
Bagdad,	Westmoreland,	34,525	100	.....	34,625	.....	275	50	.....	1	520	.....
Rembrandt R. Peale.												
Bloomington No. 9,	Jefferson,	73,876	57	65	73,998	.....	136.50	92	1	.....	627	.....
Butts Cannel Coal Co.												
Butts Cannel,	Beaver,	30,058	500	.....	30,558	.....	200	69	.....	.....	98	.....

Carver Coal C.o												
Carver,	Mercer,	27,073	4,000	750	31,823	.....	229.50	44	.....	.....	230	.....
W. F. Clayton.												
Clayton,	Beaver,	6,200	27	.....	6,227	.....	288	11	.....	.....	10	.....
Carrier Brothers.												
Carrier,	Jefferson,	11,793	.....	120	11,913	.....	296	28	.....	.....	5	5
Catfish Run Coal Co.												
Catfish Run,	Clarion,	15,070	20	60	15,130	.....	250	43	.....	1	130	25
Cherry Run Coal & Mining Co.												
Cherry Run,	Clarion,	18,487	50	200	18,737	.....	261	56	.....	1	175	200
Connessing Coal Co.												
Connessing,	Beaver,	9,886	.....	.....	9,886	.....	294	23	.....	.....	63	10
J. W. Ganoe.												
Diamond,	Clarion,	35,746	.....	.....	35,746	.....	229	91	.....	.....	.....	.....
Filer, Sutliff & Co.												
Diamond No. 1,	Mercer,	60,343	3,500	1,100	64,943	.....	215.75	178	.....	.....	425	.....
Diamond No. 2,	Mercer,	62,002	2,000	1,200	65,202	.....	219.50	99	1	.....	465	.....
Totals,	.....	122,345	5,500	2,300	130,145	.....	217.5	207	1	.....	890	.....
Peter D. Sherwin.												
Enterprise,	Butler,	12,427	100	120	12,647	.....	211	21	.....	.....	180	.....
Standard,	Butler,	14,792	606	110	15,508	.....	201	32	.....	.....	.....	1,200
Totals,	.....	27,219	706	230	28,155	.....	206	53	.....	.....	180	1,200
Haddon Coal Co.												
Haddon,	Armstrong,	39,485	100	.....	39,585	.....	283	53	.....	.....	240	.....
Wampum Run Coal Co.												
Excelsior No. 2,	Lawrence,	24,012	50	150	24,212	.....	294	30	.....	.....	.....	200
M. A. and Joseph Lehner.												
Eagle,	Clarion,	44,204	200	.....	44,404	.....	288	71	.....	.....	.....	.....
Fairmount Coal & Coke Co.												
Fairmount No. 1,	Armstrong,	172,478	.....	571	173,249	.....	286.50	260	.....	.....	1,900	.....
Fairmount No. 2,	Armstrong,	62,207	2,004	.....	65,211	.....	287.50	98	.....	.....	600	.....
Fairmount No. 4,	Armstrong,	205,178	3,048	.....	209,006	.....	289.50	243	1	1	2,100	.....
Totals,	.....	441,864	5052	571	447,466	.....	288	601	1	1	4,600	.....
J. R. Smith												
Glen,	Armstrong,	30,000	.....	.....	30,000	.....	287	93	.....	.....	240	.....

TABLE II—Continued.

Name of Company and Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.
Gilpin Coal Co.												
Gilpin,	Armstrong,	55,147	.....	.....	55,147	.....	277	76	.....	.....	.....	20
Henry Brothers.												
Henry,	Jefferson,	24,552	.....	25	24,577	.....	140.70	53	.....	.....	156	.....
Hickory Coal Co.												
Hickory,	Mercer,	25,128	500	201	25,829	.....	232	57	.....	.....	.....	.....
Hill Coal Co., Limited.												
Hill,	Mercer,	52,659	360	1,000	54,019	.....	269.50	86	.....	1	50	5
Grove Coal Co.												
Hallville,	Mercer,	47,380	2,088	78	49,546	.....	215	61	.....	.....	150	.....
Enterprise,	Mercer,	34,035	1,680	154	35,869	.....	187	55	.....	.....	154	.....
Totals,		81,415	3,768	232	85,415	.....	201	116	.....	.....	304	.....
Turner Coal, Coke & Mining Co.												
Keystone No. 1,	Butler,	19,280	200	125	19,605	.....	140.75	59	.....	.....	200	.....
Keystone No. 2,	Butler,	25,430	100	75	25,605	.....	166	45	.....	1	150	.....
Totals,		44,710	300	200	45,210	.....	153.5	104	.....	1	350	.....
Keystone Coal Mining Co.												
Keystone No. 2,	Clarion,	55,485	400	100	55,985	.....	243	78	.....	.....	350	.....
Kirkpatrick & Co., Limited.												
Kirkpatrick,	Armstrong,	35,507	45	.....	35,552	.....	304	29	.....	.....	250	.....

Kerr Coal Co.												
Kerr,	Armstrong,	6,120	.....	400	6,520	.....	204	17	.....	.....	.....	.....
F. A. Mizner.												
Lake Erie,	Butler,	33,123	39	80	33,242	.....	265.50	11	1	.....	250	.....
Mizner,	Butler,	40,416	81	186	40,683	.....	262	66	.....	.....	300	12
Totals,		73,539	120	266	73,925	.....	264	77	1	.....	550	12
Leechburg Coal & Coke Co.												
Leechburg No. 4,	Westmoreland,	30,890	.....	100	30,990	.....	310	32	.....	1	.....	.....
Riverview,	Westmoreland,	51,790	.....	107	51,897	.....	302	94	.....	.....	636	.....
Totals,		82,680	.....	207	82,887	.....	306	127	.....	1	636	.....
Jefferson Clearfield Coal & Iron Co.												
Maplewood,	Jefferson,	155,711	.....	.....	155,711	.....	230.40	153	.....	.....	1,200	.....
Hamilton,	Jefferson,	169,041	.....	.....	169,041	.....	207.70	233	.....	.....	1,400	.....
Rathmel,	Jefferson,	17,623	.....	.....	17,623	.....	99.20	55	.....	.....	200	.....
Soldier Run No. 1,	Jefferson,	754,062	.....	.....	918,623	88,717	231	1,108	1	5	8,200	200
Soldier Run No. 2,	Jefferson,	.....	.....	.....	.....	.....	231	.....	1	.....	.....	.....
Virginia,	Jefferson,	145,148	.....	.....	145,148	.....	221.30	162	1	1	1,100	.....
Sherwood,	Jefferson,	26,197	.....	.....	26,197	.....	218	44	.....	.....	120	.....
Totals,		1,267,782	.....	.....	1,432,343	88,717	205.50	1,755	3	6	12,220	200
C. P. McCafferty.												
Monarch,	Clarion,	33,000	1,200	.....	34,200	.....	239	61	.....	.....	.....	.....
Mehard Coal Co.												
Mehard,	Lawrence,	11,250	.....	.....	11,250	.....	150	25	.....	.....	.....	.....
Mineral Ridge Coal Co.												
Mineral Ridge,	Clarion,	47,269	.....	.....	47,269	.....	248	67	.....	.....	36	.....
Oak Ridge Mining Co.												
Oak Ridge,	Armstrong,	131,871	392	464	132,727	.....	198	222	.....	.....	750	.....
Filer Brothers.												
Pardoe,	Mercer,	62,810	700	200	63,710	.....	244	115	.....	.....	260	200
Penn Coal Co.												
Penn,	Lawrence,	23,042	.....	.....	23,042	.....	242	47	.....	.....	64	.....
Pine Run Coal & Coke Co.												
Pine Run,	Westmoreland,	52,672	.....	.....	52,672	.....	289	69	.....	.....	.....	50
C. E. Butler.												
Pine Creek,	Armstrong,	52,804	480	.....	53,284	.....	240	75	.....	.....	360	.....
George E. Tener.												
Rock Point,	Lawrence,	42,520	42	.....	42,562	.....	297	86	.....	.....	60	.....

TABLE II—Continued.

Name of Company and Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.
Royle Coal Co.												
Royle,	Butler,	22,901	.....	.....	22,901	.....	191	49	.....	.....	.....	.....
Riverview Coal Mining Co., Limited.												
Riverview,	Armstrong,	70,815	1,103	17	71,935	.....	224.60	117	.....	2	.....	20
State Line Coal Co.												
State Line,	Beaver,	105,010	.....	.....	105,010	.....	250	180	.....	.....	720	.....
W. H. Warner.												
Sterling,	Beaver,	55,000	447	.....	55,447	.....	271	88	.....	.....	350	10
George G. Stage.												
Stage,	Butler,	72,979	.....	.....	72,979	.....	224.50	78	.....	.....	10	3,000
Mercer Iron & Coal Co.												
Stoneboro No. 2,	Mercer,	802	38	.....	840	.....	39	22	.....	.....	5	.....
Stoneboro No. 3,	Mercer,	82,108	2,729	.....	84,837	.....	210.25	145	.....	.....	515	180
Totals,		82,910	2,767	.....	85,677	.....	124.50	167	.....	.....	520	180
Thompson Run Coal Co.												
Thompson Run,	Beaver,	57,602	.....	47	57,649	.....	268	102	.....	.....	510	50
West Penn Mining Co.												
West Penn,	Westmoreland,	23,199	.....	.....	23,199	.....	289	36	.....	.....	.....	.....
Grand totals,		4,018,866	29,610	17,055	4,230,092	88,717	237.80	6,181	8	21	28,118	6,187

TABLE II—Continued.

Name of Company and Colliery.	County.	Number horses and mules.	Number of Boilers.				Total horse power.	Steam locomotives.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
			Cylindrical.	Horse power.	Tubular.	Horse power.										
Avondale Mining & Manufacturing Co. Avondale,	Clarion,	4														
Joseph G. Beale. Aladdin,	Armstrong,	1														
Avonmore Coal & Coke Co. Avonmore,	Armstrong,	7			1	80	80		2	80						
Beaver Coal and Coke Co. Beaver,	Lawrence,	16			3	210	210		7	120					2	
Jos. G. Beale & Co. Beale,	Armstrong,	7														
Lewis Coal Co. Blackstone,	Westmoreland,	5														
Bagdad Coal & Coke Co. Bagdad,	Westmoreland,	3														
Rembrandt R. Peale. Bloomington No. 9,	Jefferson,	8	1	20			20		1	20						
Butts Cannel Coal Co. Butts Cannel,	Beaver,				1	50	50		1	40	1	315	170			
Carver Coal Co. Carver,	Mercer,	4	4	120	2	180	300									
W. F. Clayton. Clayton,	Beaver,	2														

TABLE II—Continued.

Name of Company and Colliery.	County.	Number horses and mules.	Number of Boilers.				Total horse power.	Steam locomotives.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
			Cylindrical.	Horse power.	Tubular.	Horse power.										
Carrier Brothers.																
Carrier,	Jefferson,	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Catfish Run Coal Co.																
Catfish Run,	Clarion,	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cherry Run Coal & Mining Co.																
Cherry Run,	Clarion,	3	.....	.....	1	10	10	.....	1	10	.....	.....	.....	.....	.....	.....
Connessing Coal Co.																
Connessing,	Beaver,	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
J. W. Ganoe.																
Diamond,	Clarion,	6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Filer, Sutliff & Co.																
Diamond No. 1,	Mercer,	8	6	180	.....	.....	180	.....	2	.....	2	.....	.....	.....	.....	.....
Diamond No. 2,	Mercer,	6	4	120	.....	.....	120	.....	1	.....	1	.....	.....	.....	.....	.....
Totals,		14	10	300	.....	.....	300	.....	3	.....	3	.....	.....	.....	.....	.....
Peter D. Sherwin.																
Enterprise,	Butler,	1	.....	.....	.....	.....	.....	1	1	10	.....	.....	.....	.....	.....	.....
Standard,	Butler,	2	.....	.....	1	80	80	.....	2	40	1	.....	.....	.....	.....	.....
Totals,		3	.....	.....	1	80	80	1	3	50	1	.....	.....	.....	.....	.....
Haddon Coal Co.																
Haddon,	Armstrong,	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Wampum Run Coal Co.																
Excelsior No. 2,	Lawrence,	4	1	50	.....	.....	50	.....	2	50	.....	.....	.....	.....	.....	.....

M. A. and Joseph Lehner.																
Eagle,	Clarion,	5														
Fairmount Coal & Coke Co.																
Fairmount No. 1,	Armstrong,	21							1	31						2
Fairmount No. 2,	Armstrong,	5			2	250	250		2	75						
Fairmount No. 4,	Armstrong,	29			4	320	320		1	31						2
Totals,		46			6	570	570		4	137						4
J. R. Smith.																
Glen,	Armstrong,	4														
Gilpin Coal Co.																
Gilpin,	Armstrong,	3														
Henry Brothers.																
Henry,	Jefferson,	4														
Hickory Coal Co.																
Hickory,	Mercer,	3			1	225	225		1	150	2					
Hill Coal Co., Limited.																
Hill,	Mercer,	5			1	25	25		2	40						
Grove Coal Co.																
Hallville,	Mercer,	4	2	60			60				2	80	80			
Enterprise,	Mercer,	3			2	120	120				2	80	80			
Totals,		7	2	60	2	120	180				4	160	160			
Turner Coal, Coke & Mining Co.																
Keystone No. 1,	Butler,	5			1	20	20		1	30						
Keystone No. 2,	Butler,	2														
Totals,		7			1	20	20		1	30						
Keystone Coal Mining Co.																
Keystone No. 2,	Clarion,	6	2	100			100		1	70				1		
Kirkpatrick & Co., Limited.																
Kirkpatrick,	Armstrong,	3														
Kerr Coal Co.																
Kerr,	Armstrong,	1														
F. A. Mizner.																
Lake Erie,	Butler,	2														
Mizner,	Butler,	5														
Totals,		7														

TABLE II—Continued.

Name of Company and Colliery.	County.	Number horses and mules.	Number of Boilers.			Horse power.	Total horse power.	Steam locomotives.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
			Cylindrical.	Horse power.	Tubular.											
Leechburg Coal & Coke Co.																
Leechburg No. 4,	Westmoreland,	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Riverview,	Westmoreland,	5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals,		7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Jefferson Clearfield Coal & Iron Co.																
Maplewood,	Jefferson,	9	.....	.....	2	160	160	.....	2	164	3	660	660	.....	1	.....
Hamilton,	Jefferson,	28	.....	.....	1	60	60	.....	3	175	1	85	85	.....	.....	.....
Bathmel,	Jefferson,	2	.....	.....	.....	.....	.....	.....	1	25	1	85	85	.....	.....	.....
Soldier Run No. 1,	Jefferson,	39	.....	.....	12	1,360	1,360	.....	6	871	9	1,213	1,205	.....	4	262
Soldier Run No. 2,	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Virginia,	Jefferson,	9	.....	.....	2	200	200	.....	2	114	2	175	175	.....	1	.....
Sherwood,	Jefferson,	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals,		150	.....	.....	17	1,780	1,780	.....	13	1,349	16	2,218	2,200	.....	6	262
C. P. McCafferty.																
Monarch,	Clarion,	4	.....	.....	2	150	150	.....	1	100	.....	.....	.....	.....	1	.....
Mehard Coal Co.																
Mehard,	Lawrence,	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mineral Ridge Coal Co.																
Mineral Ridge,	Clarion,	8	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oak Ridge Mining Co.																
Oak Ridge,	Armstrong,	15	.....	.....	3	110	110	.....	4	125	.....	.....	.....	.....	.....	.....
Filer Brothers.																
Pardoe,	Mercer,	12	.....	.....	1	10	10	1	2	25	.....	.....	.....	.....	.....	.....

Penn Coal Co.																
Penn,	Lawrence,	5														
Pine Run Coal & Coke Co.																
Pine Run,	Westmoreland,	3								1	3,000	3,000				
C. E. Butler.																
Pine Creek,	Armstrong,	6														
George E. Tener.																
Rock Point,	Lawrence,	9														
Royle Coal Co.																
Royle,	Butler,	4														
Riverview Coal Mining Co., Limited.																
Riverview,	Armstrong,	11	2	120			120		2	4	2	104	50			
State Line Coal Co.																
State Line,	Beaver,	7			2	100	100		6	240						
W. H. Warner.																
Sterling,	Beaver,	3	1	50			50		1	35	2	400	400			
George G. Stage.																
Stage,	Butler,	3														
Mercer Iron & Coal Co.																
Stoneboro No. 2,	Mercer,	6			1	20	30		1	30						
Stoneboro No. 3,	Mercer,	8	3	180	1	75	255		3	82	2	1,250	500			
Totals,		14	3	180	2	105	285		4	112	2	1,250	500			
Thompson Run Coal Co.																
Thompson Run,	Beaver,	10							2	20	1	150	147			
West Penn Mining Co.																
West Penn,	Westmoreland,	2														
Grand totals,		476	26	1,000	48	3,825	4,825	2	67	2,807	38	10,027	8,940	1	13	262

TABLE III—Showing the number of each class of employes at each colliery in the Third Bituminous District, during the year 1899.

Names of Operators and Collieries.	Occupations of Persons Employed Inside.							Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or mine boss.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Avondale Mining & Manufacturing Co.																
Avondale,	1	31	.....	4	.....	1	37	.....	1	1	1	.....	.....	1	4	41
Jos. G. Beale.																
Alladin,	1	38	.....	1	.....	.....	40	.....	1	.....	.....	.....	1	3	5	45
Avonmore Coal & Coke Co.																
Avonmore,	1	90	.....	7	3	3	104	.....	1	1	1	.....	2	8	13	117
Beaver Coal & Coke Co.																
Beaver,	1	107	13	8	.....	8	137	.....	2	5	.....	.....	3	8	18	155
Jos. G. Beale & Co.																
Beale,	1	40	.....	4	1	.....	46	.....	.....	.....	.....	.....	1	4	5	51
Lewis Coal Co.																
Blackstone,	1	55	.....	3	1	1	61	.....	1	.....	1	.....	1	5	8	69
Bagdad Coal & Coke Co.																
Bagdad,	1	40	.....	3	.....	1	45	.....	1	.....	1	.....	1	2	5	50
Rembrandt R. Peale.																
Bloomington No. 9,	1	77	.....	5	2	.....	85	.....	1	1	.....	.....	2	3	7	92
Butts Cannel Coal Co.																
Butts Cannel,	1	52	1	5	.....	.....	59	.....	1	1	.....	.....	1	7	10	69

Carver Coal Co.																
Carver,	1	25	3	3	1	2	35	.....	1	2	2	.....	2	2	9	44
W. F. Clayton.																
Clayton,	1	8	.....	.....	.....	.....	9	1	.....	.....	.....	.....	1	.....	2	11
Carrier Brothers.																
Carrier,	1	20	.....	2	.....	.....	23	.....	.....	.....	1	.....	3	1	5	28
Catfish Run Coal Co.																
Catfish Run,	1	32	1	4	.....	.....	38	.....	1	.....	.....	.....	1	3	5	43
Cherry Run Coal & Mining Co.																
Cherry Run,	1	45	1	2	1	.....	50	.....	1	1	1	.....	1	2	6	56
Connessing Coal Co.																
Connessing,	1	18	.....	1	.....	.....	20	.....	1	.....	.....	.....	1	1	3	23
J. W. Ganoe.																
Diamond,	1	75	.....	6	.....	2	84	.....	1	.....	2	.....	2	2	7	91
Filer, Sutliff & Co.																
Diamond No. 1,	1	75	3	9	2	5	95	.....	1	3	2	.....	2	5	13	108
Diamond No. 2,	1	70	3	6	1	5	86	.....	1	3	2	.....	2	5	13	99
Totals,	2	145	6	15	3	10	181	.....	2	6	4	.....	4	10	26	207
P. D. Sherwin.																
Enterprise,	1	15	.....	1	.....	.....	17	.....	1	1	.....	.....	.....	2	4	21
Standard,	1	24	.....	2	.....	1	28	.....	1	2	.....	.....	1	.....	4	32
Totals,	2	39	.....	3	.....	1	45	.....	2	3	.....	.....	1	2	8	53
Wampum Run Coal Co.																
Excelsior No. 2,	1	30	.....	2	.....	1	34	1	.....	.....	.....	.....	2	2	5	39
M. A. and Joseph Lehner.																
Eagle,	1	55	.....	3	.....	3	62	.....	1	1	1	.....	2	4	9	71
Fairmount Coal & Coke Co.																
Fairmount No. 1,	1	195	.....	20	5	11	232	1	4	4	3	.....	2	14	28	260
Fairmount No. 2,	.....	75	.....	5	1	4	85	.....	2	2	2	.....	1	6	13	98
Fairmount No. 4,	1	175	.....	20	7	13	216	.....	4	4	2	.....	1	16	27	243
Totals,	2	445	.....	45	13	28	533	1	10	10	7	.....	4	36	68	601
J. R. Smith																
Glen,	1	25	.....	2	.....	3	31	.....	1	.....	.....	.....	1	.....	2	36
Gilpin Coal Co.																
Gilpin,	1	65	.....	3	1	1	71	.....	1	.....	1	.....	1	2	5	76

TABLE III —Continued.

Names of Operators and Collieries.	Occupations of Persons Employed Inside.							Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or mine boss.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Henry Brothers.																
Henry	1	43	.....	4	1	.....	49	.....	1	.....	.....	.....	1	2	4	53
Hickory Coal Co.																
Hickory	1	53	.....	2	.....	1	57	.....	1	1	1	.....	1	4	8	65
Hill Coal Co., Limited.																
Hill	1	70	3	3	.....	.....	79	.....	1	1	2	.....	1	2	7	86
Grove Coal Co.																
Hallville	1	42	.....	3	.....	3	51	.....	1	2	.....	.....	2	5	10	61
Enterprise	1	37	.....	3	.....	4	45	.....	1	2	.....	.....	2	3	10	55
Totals	2	79	.....	8	.....	7	96	.....	2	4	.....	.....	4	10	20	116
Haddon Coal Co.																
Haddon	1	45	.....	2	.....	1	49	.....	.....	.....	1	.....	1	2	4	53
Turner Coal, Coke & Mining Co.																
Keystone No. 1	1	45	1	4	.....	.....	51	1	1	1	1	.....	2	2	8	59
Keystone No. 2	1	38	1	2	.....	.....	42	1	.....	.....	1	.....	.....	1	3	45
Totals	2	83	2	6	.....	.....	93	2	1	1	2	.....	2	3	11	104
Keystone Coal Mining Co.																
Keystone	1	60	2	4	1	2	70	.....	1	1	2	.....	2	2	8	78

Kirkpatrick & Co., Limited.																
Kirkpatrick	1	25		3			29									29
Kerr Coal Co.																
Kerr	1	15		1			17									17
F. A. Mizner.																
Lake Erie		9		1			10						1		1	11
Mizner	1	55		5		2	63		1				1	1	3	66
Totals	1	64		6		2	73		1				2	1	4	77
Leechburg Coal & Coke Co.																
Leechburg No. 4	1	27		2			30						1	2	3	33
Riverview	1	84		4		1	90		1		1			2	4	94
Totals	2	111		6		1	120		1		1		1	4	7	127
Jefferson Clearfield Coal & Iron Co.																
Maplewood	1	126		9	1	3	140		2	3				8	13	153
Hamilton	1	186		14	8	13	222		2	1				8	11	233
Rathmel	1	16		3	1	1	52			1				2	3	55
Soldier Run No. 1	1	828		67	23	47	977	1	5	12		80	2	31	131	1,108
Soldier Run No. 2	1															
Virginia	1	126		9	3	13	152		1	3				6	10	162
Sherwood	1	37		2			40		1				1	2	4	44
Totals	7	1,359		104	36	77	1,583	1	11	20		80	3	57	172	1,755
C. P. McCafferty.																
Monarch	1	45	1	5		1	53		1	2	1		1	3	8	61
Mehard Coal Co.																
Mehard	1	18		2		1	22						1	2	3	25
Mineral Ridge Coal Co.																
Mineral Ridge	1	50	2	6			59		1		2		2	3	8	67
Oak Ridge Mining Co.																
Oak Ridge	1	174		14	5	3	197	1	3	3			2	16	25	222
Filer Brothers.																
Pardee	1	85	3	12	2	1	104	1	2	2	1		2	3	11	115
Penn Coal Company.																
Penn	1	30		6		3	40		1				2	4	7	47
Pine Run Coal & Coke Co.																
Pine Run	1	60		3		1	65		1		1		1	1	4	69
C. E. Butler.																
Pine Creek	2	60		4		1	67		1		2		2	3	8	75

TABLE III—Continued.

Names of Operaters and Collieries.	Occupations of Persons Employed Inside.							Occupations of Persons Employed Outside.								Grand total inside and outside
	Inside foreman or mine boss.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
George E. Tener.																
Rock Point,	1	71	2	5	1	.....	80	.....	1	.....	.....	.....	1	4	6	86
Royle Coal Co.																
Royle,	1	41	.....	4	.....	.....	46	1	1	.....	.....	.....	1	.....	3	49
Riverview Coal Mining Co., Limited.																
Riverview,	1	85	.....	7	3	8	104	.....	2	2	.....	.....	2	7	13	117
State Line Coal Co.																
State Line,	1	135	8	7	1	.....	152	1	3	6	1	.....	.....	17	28	180
W. H. Warner.																
Sterling,	1	75	1	4	.....	.....	81	1	1	1	1	.....	1	2	7	88
George G. Stage.																
Stage,	1	48	1	2	.....	4	56	.....	1	.....	1	.....	.....	.....	2	58
Mercer Iron & Coal Co																
Stoneboro No. 2,	1	8	.....	3	.....	7	19	.....	1	1	1	.....	.....	.....	3	22
Stoneboro No. 3,	1	111	.....	6	2	9	129	.....	2	3	4	.....	1	6	16	145
Totals,	2	119	.....	9	2	16	148	.....	3	4	5	.....	1	6	19	167
Thompson Run Coal Co.																
Thompson Run,	1	72	10	7	1	2	93	.....	2	1	.....	.....	2	4	9	102

| | | |

TABLE III—Continued.

Names of Operators and Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Avondale Mining & Manufacturing Co. Avondale	19	13	.....	1	19	22	15.50	17.50	21	20.50	23	22.50	194
Jos. G. Beale. Aladdin	25	20	25	17	24	27	18	25	25	26	25	22	279
Avonmore Coal & Coke Co.. Avonmore	24	21	25	24	22	16	16	23	25	26	25	25	272
Beaver Coal & Coke Co. Beaver	23	21	26	26	24	23	21	21	24	20	9	22	260
Jos. G. Beale & Co. Beale	26	24.50	26	21.50	21.50	20	18.50	24.50	22.50	20	23	22.50	269.50
Lewis Coal Co. Blackstone	25	22	26	23	24	23	25	26	25	26	26	24	295
Bagdad Coal & Coke Co. Bagdad	23	22	24	22	24	22	23	24	24	25	20	22	275
Rembrandt R. Peale. Bloomington No. 9	8	8.50	10.50	21	14.25	19.75	4	1	6.50	5.75	18.75	18.50	136.50
Butts Cannel Coal Co. Butts Cannel	23	24	20	4.50	5.75	3.50	4.50	18.50	23	25	24.50	23.75	200

Carver Coal Co.													
Carver,	14.70	18	15	28.70	15	24	20	22	11	19.50	22	20	229.50
W. F. Clayton.													
Clayton,	22	24	22	21	26	24	22	27	25	26	25	24	288
Carrier Brothers.													
Carrier,	25	23	25	25	26	25	24	25	24	27	24	25	296
Catfish Run Coal Coal Co.													
Catfish Run,	21	20	22	20	21	21	20	22	21	22	20	20	250
Cherry Run Coal & Mining Co.													
Cherry Run,	23	23	26	23	21	6	23	19	24	26	24	23	261
Connessing Coal Co.													
Connessing,	21	24	27	23	24	26	23	26	26	26	25	23	294
J. W. Canoe													
Diamond,	23	21	26	22	23	.....	19	15	22	18	20	20	229
Filer, Sutliff & Co.													
Diamond No. 1,	22.75	.....	12	13	21	11.75	21.5	25.75	22	22.75	23.25	24	215.75
Diamond No. 2,	24	.....	12	18.75	21	11.50	22	23	24	25.50	24.75	20	219.50
Totals,	*23.87	.....	12	13.87	21	11.62	21.75	23.25	23	23.12	24	20.50	217.62
P. D. Sherwin.													
Enterprise,	16	18	19	16	16	15	19	17	18	23	18	25	211
Standard,	12	17	14	15	15	17	16	18	18	20	21	20	201
Totals,	*14	16.50	16.50	15.50	15.50	16	18	17.50	18	21.50	19.50	*22.50	206
Wampum Run Coal Co.													
Excelsior No. 2,	21	23	27	24	25	24	25	26	24	26	25	24	294
M. A. and Joseph Lehner.													
Eagle,	25	24	26	25	25	15	24	26	25	24	25	24	288
Fairmount Coal & Coke Co.													
Fairmount No. 1,	22	23	25.50	25	22.50	25.50	24.50	25	22	24	23	24.50	286.50
Fairmount No. 2,	22	23	25.50	25	23.50	25.50	24.50	25	22	24	23	24.50	287.50
Fairmount No. 4,	25	23	26.50	25	24.50	26	24.50	24	22	22	24	23	289.50
Totals,	*23	23	25.80	25	23.50	25.66	24.50	24.67	22	23.33	23.33	24	287.81
J. R. Smith.													
Glen,	24	24	21	25	23	24	23	24	23	26	24	26	287
Gilpin Coal Co.													
Gilpin,	25	21	21	20	24	20	21	27	23	25	25	25	277

TABLE III—Continued.

Names of Operators and Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Henry Brothers.													
Henry,	14.50	8.10	9.70	18.90	16	.....	9.70	4	6.70	9.30	20.80	23	140.70
Hickory Coal Co.													
Hickory,	.....	.....	18	20	22	23	24	19	18	19	18	19	200
Hill Coal Co., Limited.													
Hill,	14.50	12.75	12	11.75	13.50	15.25	20.50	20.75	20.50	22	23.50	23	209.50
Grove Coal Co.													
Hallville,	20	19	23	18	7	11	13	15	22	22.50	22	22.50	215
Enterprise,	.....	.....	8	16	10	17	20.50	23.50	22.50	24	22.50	23	187
Totals,	*20	19	15.50	17	8.50	14	16.75	19.25	22.25	23.25	22.25	22.75	201
Haddon Coal Co.													
Haddon,	25	18	24	21	26	23	23	26	24	24	25	24	283
Turner Coal, Coke & Mining Co.													
Keystone No. 1,	.....	.....	.....	.....	15	23.50	10	7	22	24	19.25	20	140.75
Keystone No. 2,	19.50	21.50	17.50	.....	1	21	20	22.50	20	7	16	.....	166
Totals,	*19.50	21.50	17.50	.....	8	22.25	15	14.75	21	15.50	17.62	20	153.37
Keystone Coal Mining Co.													
Keystone,	23	22	24	20	22	4	17	22	25	21	23	20	243

Kirkpatrick & Co., Limited.													
Kirkpatrick,	26	24	26	26	26	26	26	26	26	26	26	20	304
Kerr Coal Co.													
Kerr,	25	24	25	25	23	.....	.....	.....	10	24	24	24	204
F. A. Mizner.													
Lake Erie,	23	22	25	22.50	23	19.50	19	23.50	21.50	24	23	19.50	265.50
Mizner,	24	22	25	23	24	19.50	10.50	24.50	22	24	23	20.50	2??
Totals,	*23.50	22	25	22.75	23.50	19.50	14.75	24	21.75	24	23	20	263.75
Leechburg Coal & Coke Co.													
Leechburg No. 4,	26	24	27	25	27	26	25	27	26	26	26	25	310
Riverview,	26	21	27	27	25	24	25	27	26	26	25	25	302
Totals,	*26	22.50	27	25	26	25	25	27	26	26	25.50	25	306
Jefferson Clearfield Coal & Iron Co.													
Maplewood,	24.80	22.20	22.70	24.80	21.80	2	10.80	18.30	22.40	16.10	22.30	22.20	230.40
Hamilton,	22.80	16.40	21.60	22.60	19.10	.80	9.80	14.60	19.30	19.70	20.50	20.50	207.70
Rathmel,	.....	.....	.....	.....	.....	.....	.....	26	14.20	19.40	20.80	18.80	99.20
Soldier Run No. 1,	25.60	19.60	23.60	24.30	23.10	2	10.80	16.10	20.90	17.50	24.70	22.50	231
Soldier Run No. 2,	25.60	19.50	23.60	24.30	23.10	2	10.80	16.10	20.90	17.50	24.70	22.50	231
Virginia,	24.80	19.90	23.60	23.10	20.60	2	9.30	13.30	22.20	17.90	22.30	22.30	221.30
Sherwood,	20	20	20	22	24	.....	10	20	20	20	24	18	218
Totals,	*23.30	19.70	22.50	23.50	21.90	1.70	10.20	17.70	19.90	18.30	22.70	20.90	205.50
C. P. McCafferty.													
Monarch,	20	17	25	20	20	10	21	22	22	22	20	20	239
Mehard Coal Co.													
Mehard,	17	18	15	10	10	10	10	15	15	10	10	10	150
Mineral Ridge Coal Co.													
Mineral Ridge,	24.25	21.75	23	22	21.50	2.75	19	23.50	22.75	22.25	23.25	22	248
Oak Ridge Mining Co.													
Oak Ridge,	18	7.75	19	14.50	12	16.75	15.25	21.25	16.50	14.75	22.75	19.50	198
Filer Brothers.													
Pardoe,	21	13	14	14	23	25	20	24	24	23	22	21	244
Penn Coal Co.													
Penn,	8	9	20	18	17	25	23	25	23	26	24	24	242
Pine Run Coal & Coke Co.													
Pine Run,	23	23	26	20	26	24	25	26	26	24	24	22	289
C. E. Butler.													
Pine Creek,	20	20	20	20	20	20	20	20	20	20	20	20	240

TABLE III—Continued.

Names of Operators and Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
George E. Tener.													
Rock Point,	26	24	27	25	27	26	25	27	26	21	18	25	297
Royle Coal Co.													
Royle,	23	21	20	.....	.....	.....	21	20	19	24	22	21	191
Riverview Coal Mining Co., Limited.													
Riverview,	21	19.60	20.80	19.40	20.60	16.70	21	20.10	14.20	13.50	18.10	19.60	224.60
State Line Coal Co.													
State Line,	24	24	24	24	24	22	22	25	25	25.50	25.50	25	295
W. H. Warner.													
Sterling,	20	21	24	22	20	25	20	26	23	24	24	22	271
George G. Stage.													
Stage,	13.50	13	18	19.50	22	22.50	18	21.50	19.50	22	20.50	14.50	224.50
Mercer Iron Coal Co.													
Stoneboro No. 2,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	14	25	39
Stoneboro No. 3,	7.50	11.75	14.25	17.25	7	15.75	20.25	23.50	22.50	22.25	24.50	23.75	210.25
Totals,	*7.50	11.75	14.25	17.25	7	15.75	20.25	23.50	22.50	22.25	19.25	24.37	124.62
Thompson Run Coal Co.													
Thompson Run,	25	22	14	21	17	24	20	26	24	25	25	25	268

West Penn Mining Co.													
West Penn	23	26	27	25	25	18	24	25	26	25	26	25	298
Hickory Coal Co., Limited.													
Hickory Shaft			24	21	19	25	23	19	22	24	22	23	222
Grand total													16.9.2

*Average.

TABLE IV—List of fatal accidents that occurred in and about the mines of the Third Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Feb. 7.	Patrick Madden.	Boss driver, ...	37	M.	1	9	Soldier Run No. 1,.....	Jefferson,.....	At Soldier Run Mine No. 1, where this accident occurred there is an endless rope system of haulage which extends into the mine on the dip of the seam for about one mile, and which takes the loaded wagons from the mouth of the different levels on the slope. This haulage is worked by a "grip" car and about fifty mine wagons are attached to it at each trip. There is a man specially employed for the purpose of riding and operating the "grip" car and attaching the trips thereto. Madden being boss driver, he was frequently during each day at the mouth of the different levels helping to make up loaded trips. He would sometimes ride outside on the "grip" car, and even take out the trips for the gripman. On the evening of the accident when the gripman came down the slope with the next to last trip, Madden told him he would attend to the last trip for him and bring it out as far as No. 1 level. When this trip reached No. 2 level Madden got on to the "grip" car and went down with it to the lower level, and made up the loaded trip, and proceeded to take it out as far as No. 1 level, where it was to stand during the night. These trips are run at a high rate of speed, and while Madden was coming out on the trip on the "grip" car, he imagined

									some person had flagged him, and thinking something was wrong on the slope ahead, he attempted to jump off the cars into an escape hole on the side of the haulage way, and in doing so his head caught the top coal, which threw him back. Three or four cars passed over his right arm, and his body was squeezed against the entry pillar. The accident happened at 5.30 P. M., and his arm was amputated next day at 1 o'clock, but he did not recover from the shock, and died at 11 o'clock the same night. Madden had been forbidden to ride on the "grip" car sometime previous to the accident by the mine superintendent.
Feb.	25,	Augustus Vanberg, ...	Miner, ...	40	M.	1	3	Bloomington, ...	Jefferson,.....	Vanberg was standing at the mouth of his room making some inquiries of the driver. The driver was taking out a trip of four cars at this time, and as he was passing Vanberg's room he got on to the moving trip between the third and fourth cars unknown to the driver, and it seems that while turning around between the cars he raised his head too high, which was caught by the roof, and it and the upper part of the body was drawn back over the top of the rear car, and so badly squeezed between it and the roof that he died two hours after he received his injuries. The driver had never known him to get on either an empty or loaded moving trip before.
Mar.	4,	Clyde Downs, ...	Scraper, ...	19	S.	.....	.....	Fairmount No. 4, ...	Armstrong,.....	Downs was acting as scraper in connection with the mining machine which was being operated by Galvin Miller at the time of the accident. While Miller was cutting the coal with the machine, Downs was shoveling the cuttings back, and while he was doing so the roof caved in at the place where the two men were working, and this young man was caught by the falling roof; six or seven tons of roof material fell upon Downs, and he was crushed to death.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Sept. 18.	Jesse Jones, ...	Miner, ...	56	M.	1	3	Lake Erie, ...	Butler,.....	Jones was crushed to death by a fall of rock. The morning of the accident he had just begun to extract the room rib and had only been employed there for the day. He was mining on the point of the inner end of the rib, and on removing part of the coal at said point it released a fractured part of the roof rock (the stone was about 8 feet long, 4 feet wide and seventeen inches thick), which fell, killing him instantly. This part of the roof was insufficiently secured with timber. Jones knew that the roof was fractured and in addition to this the track man pointed out the danger to him and requested him not to take any more coal off the end of the rib until the roof was properly secured; Jones set one post, which was not sufficient to secure it after the coal on the end of the pillar was taken down. Jones alone was responsible for the loss of his life, inasmuch as he disobeyed orders relative to securing his working place.
Sept. 22.	Wm. Bevens, ...	Driver, ...	31	S.	....	....	Beaver No. 1, ...	Lawrence,.....	Bevens was one of the drivers in Beaver mine, and he with five others hauled the coal from the workings to the tail rope haulage station in it. He was one of the drivers designated by the mine foreman to unhitch the rope from the front end of the trip of empty cars when it arrived at the parting or siding. In order to do so, the driver upon the arrival of the trip would jump into the

									front car on it and after it had proceeded a certain distance on parting he would detach the hook, throw the chain to one side and allow the trip to move forward by gravity. It seems that these trips come on to the parting at a high rate of speed, and the mine cars being small and light in weight, the weight of the man on the front end of one of them tipped it and swung it off the track, thereby overbalancing him and throwing him off the car, and he was crushed between the cars and the parting coal pillar. He lived one hour after being taken out.
Sept.	22,	William H. Thomas, ...	Scraper, ...	15	S.	....	Virginia, ...	Jefferson,.....	Was killed instantly by a fall of slate in Virginia mine. He was acting as scraper for his brother, who had charge of a coal cutting machine. The brothers had made one cut and they had arranged the cutter board to begin a second one and at this time the boy stretched himself out at full length on the cutter board, and while he was in this position a large mass of the roof fell upon him.
Oct.	10,	Wm. Gulick, ...	Cager, ...	23	M.	1 1	Black Diamond No. 2.....	Mercer,.....	Was crushed to death by a descending cage in Black Diamond Shaft No. 2. He was employed as cager at this mine and while passing over the bottom of it from the south to the north side he was caught by one of descending cages and almost buried beneath it. There was no necessity of this man passing over the bottom of the shaft, as he had ample time to do all the work he was required to perform. The mine foreman had cautioned Gulick not to do what cost him his life.
Dec	4,	Leonard Chéser, ...	Miner or scraper,..	34	M.	1 4	Soldier Run No. 2, ...	Jefferson,.....	Was lying on his side on the floor of the room or entry pillar at the mouth of No. 10 room in No. 6 entry, when a runaway car came down the dip on the entry road, which jumped the track at the room parting where Cheser was lying, which caught him between the car and pillar, crushing him so severely that he died next day at the Adrian Hospital. According to the evidence given at the investigation of the accident, it seems that O'Neil (who was the driver in that entry), left an empty mine wagon on the entry road just below the parting of No. 7 room until

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
									he should go into it and bring out the loaded wagon. When he came out with the loaded wagon the driver allowed it to strike the empty car, and in some way the sprag which was holding it was knocked out of the wheel, thereby allowing it to run down the grade, and it was only stopped by jumping the track at No. 10 room.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Third Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 5,	Wm. P. McNamee,	Miner,	33	S.	Keystone No. 2,	Butler,	Head and side injured by a fall of coal and slate.
12,	Jacob Reither,	Miner,	36	M.	Hill,	Mercer,	Lost an eye by the point of his pick running into it while at work.
Feb. 25,	Henry Bloom,	Miner,	46	M.	Soldier Run No. 2,	Jefferson,	Right leg broken and head cut by a fall of coal.
Mar. 6,	Jos. L. Small,	Miner,	29	M.	Leechburg No. 4,	Westmoreland,	Leg broken by a fall of slate.
13,	Wm. Stewart,	Driver,	25	S.	Riverview,	Armstrong,	Three ribs and arm broken and shoulder dislocated; was caught between wagon and rib while spragging.
April 1,	Eddie Lace,	Pick boy,	14	S.	Fairmount No. 4,	Armstrong,	Leg crushed so badly that amputation was necessary; he was caught by cars while jumping on them outside of mine; he fell under cars.
11,	Wm. G. Bowser,	Miner,	35	M.	Avonmore,	Armstrong,	Bruised on hips and right leg by a fall of slate.
13,	Wm. Skinner,	Miner,	....	S.	Avonmore,	Armstrong,	Right leg broken and left leg bruised by a fall of coal.
May 9,	M. F. Horne,	Extra weighmaster,	22	S.	Catfish Run,	Clarion,	Right foot badly bruised and leg cut by a mine wagon at tipple.
9,	Charley Myers,	Miner,	19	S.	Cherry Run,	Clarion,	Cut on head and bruised on hip by the rope breaking, allowing a bucket to fall upon him while he was sinking a shaft.
June 1,	Stephen Baker,	Driver,	27	S.	Soldier Run No. 1,	Jefferson,	He was cut on head and ear by mine wagon; head caught between roof and wagon.
19,	Hiram Hains,	Driver,	22	S.	Beale,	Armstrong,	Badly bruised by mine wagon.
30,	John Sullivan,	Miner,	19	S.	Avonmore,	Armstrong,	Leg bruised while riding on mine wagon.
Sept. 7,	John Broad,	Miner,	26	M.	Soldier Run No. 1,	Jefferson,	Foot bruised by a fall of slate.
22,	John McIntire,	Miner,	30	M.	Virginia,	Jefferson,	Leg broken and head cut by a fall of slate.
25,	Augustus Parsons,	Miner,	34	M.	Avonmore,	Armstrong,	Hips badly bruised by a fall of coal.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Oct. 3.	Robert Pollick,	Miner,	38	M.	Soldier Run No. 1,	Jefferson,	Leg cut and ankle bruised by a fall of coal.
22.	Charles Fleming,	Checkweighman,	...	M.	Riverview,	Armstrong,	One leg broken and the other cut and head bruised; he was traveling on the main rope haulage way and was caught by a trip of cars.
Dec. 22.	Christ. Huffman,	Loader,	52	M.	Soldier Run No. 1,	Jefferson,	Finger broken by a fall of coal.
22.	Frank Kridler,	Driver,	23	S.	Avonmore,	Armstrong,	Body crushed between mine wagons.
26.	John Forney,	Miner,	40	M.	Bagdad No. 2,	Westmoreland,	Face and hands slightly burned by fire-damp.

Fourth Bituminous District.

TIOGA, POTTER, BRADFORD, LYCOMING, CLINTON, CAMERON, McKEAN AND ELK COUNTIES, AND ALL THOSE MINES IN CLEARFIELD COUNTY ADJACENT TO THE LOW GRADE DIVISION OF THE ALLEGHENY VALLEY RAILROAD; ALSO THE MINES ADJACENT TO THE CLEARFIELD AND SUSQUEHANNA BRANCH OF THE PENNSYLVANIA RAILROAD; ALSO THE MINES ADJACENT TO THE BUFFALO, ROCHESTER AND PITTSBURGH RAILROAD IN JEFFERSON AND CLEARFIELD COUNTIES.

Du Bois, Pa., February 21, 1900.

Hon. Jas. W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: In compliance with the requirements of the Bituminous mining law, approved May 15, 1893, I herewith submit the annual report of the inspection of mines in the Fourth Bituminous district for the year ending December 31, 1899.

There was an increase in the number of lives lost, and of non-fatal accidents, six of the former and five of the latter, over that for 1898.

There has been some decrease in the coal production amounting to 270,003 tons from that of 1898, which was owing to strikes in different parts of the district.

The statistical part of this report is compiled from data furnished to me since I was appointed Inspector to succeed the late James N. Patterson, and the matter from which I have written the descriptive part of the report, and that relative to fatal and non-fatal accidents, and the condition of the mines was in possession of my predecessor before the time of his death, he having died December 20, 1899.

The descriptive part of this report is necessarily very brief owing to my being unfamiliar with the conditions prevailing in and about the mines of the district.

The usual statistical tables describing fatal and non-fatal accidents will be found in another part of this report.

All of which is respectfully submitted.

ELIAS PHILLIPS,
Mine Inspector, Fouth Bit. Dist.

Production of Coal in Tons During the Year, 1899.

Rochester and Pittsburg Coal and Iron Co.,	2,954,261
Northwestern Mining and Exchange Co.,	891,970
Jefferson and Clearfield Coal and Iron Co.,	898,795

Shawmut Coal Mining Co.,	518,796
Blossburg Coal Co.,	255,994
Morris Run Coal Co.,	267,083
Magee & Ellsworth,	111,224
Berwind-White Coal Mining Co.,	208,748
Jefferson Coal Co.,	247,929
Kurtz & Rinn,	257,210
Kettle Creek Coal Mining Co.,	221,090
Clearfield Coal Co.,	124,554
St. Mary's Coal Co.,	21,221
Red Run Coal Co.,	101,924
Long Valley Coal Co.,	31,835
Joseph H. Reilley & Co.,	66,564
Mt. Carmel Coal Co.,	1,500
George Rees & Co.,	13,600
Buffalo Coal Co.,	25,435
Kaul & Hall,	27,208
Total,	7,246,941

The total production was made up as follows in tons:

Shipped by railroad to market,	6,240,176
Sold at the mines for local use,	33,383
Consumed to generate steam,	154,928
Consumed in the manufacture of coke,	858,454
Total,	7,246,941

Mining Statistics.

Figures Denote Short Tons of Coal and Coke.

Number of mines in district,	68
Number of mines in operation during 1899,	67
Number of tons of coal produced,	7,246,941
Number of tons of coal shipped,	6,240,176
Number of tons of coal used for steam at mines,	154,928
Number of tons of coal sold to employes and others,	33,383
Number of coke ovens,	1,617
Number of tons of coke produced,	495,264
Number of persons employed inside the mine,	8,079
Number of persons employed outside the mines,	1,551
Number of fatal accidents,	21
Number of tons produced per fatal accident,	345,092
Number of non-fatal accidents,	33
Number of tons produced per non-fatal accident,	219,604

Number of persons employed per fatal accident,	459
Number of persons employed per non-fatal accident,	292
Number of wives made widows by accidents,	16
Number of orphans by accidents,	41
Number of kegs of powder used,	44,911
Number of pounds of dynamite used,	40,365
Number of cylindrical boilers in use,	23
Number of tubular boilers in use,	114
Number of steam locomotives,	24
Number of air locomotives,	2
Number of electric locomotives,	18
Number of mules used in mines,	958
Number of mines opened,	1
Number of mines abandoned,	1

TABLE A—Showing the Production of Coal, Number of Persons Employed by each Company during the Year 1899, and the Average Number of Tons Produced per Employe.*

Names of Companies.	Number of tons of coal produced.	Number of employes.
Rochester and Pittsburgh Coal and Iron Co.,	2,954,261	3,201
North Western Mining and Exchange Co.,	891,970	1,190
Jefferson and Clearfield Coal and Iron Co.,	888,795	706
Shawmut Coal Co.,	518,796	692
Ebensburg Coal Co.,	255,994	1,083
Morris Run Coal Co.,	267,083	608
Magee and Ellsworth,	111,224	249
Berwind-White Coal Mining Co.,	208,748	250
Jefferson Coal Co.,	247,929	305
Kurtz and Rinn,	257,210	263
Kettle Creek Coal Mining Co.,	221,600	235
Clearfield Coal Co.,	124,554	212
St. Mary's Coal Co.,	21,221	75
Red Run Coal Co.,	181,924	203
Long Valley Coal Co.,	31,825	68
Joseph H. Reilley & Co.,	66,564	132
Mt. Carmel Coal Co.,	1,500	11
Geo. Rees & Co.,	13,600	37
Buffalo Coal Co.,	25,435	53
Kaul and Hall Coal Co.,	27,208	57
Total,	7,246,941	9,630

*752.5+ tons mined per employe.

TABLE B—Number of Fatal Accidents and Quantity of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
Rochester and Pittsburgh Coal and Iron Co.,	11	298,569
North Western Mining and Exchange Co.,	4	287,323
Shawmut Coal Co.,	1	259,398
Blossburg Coal Co.,	1	255,984
Morris Run Coal Co.,	1	267,083
Kurtz and Rinn Coal Co.,	1	257,210
Kettle Creek Coal Co.,	2	110,545
Total,	21	*345,092

*Average.

TABLE C—Number of Fatal and Non-fatal Accidents and Tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Tons of coal produced per accident.
Rochester and Pittsburgh Coal and Iron Co.,	26	113,625
North Western Mining and Exchange Co.,	[illegible]	178,3[illegible]
Jefferson and Clearfield Coal and Iron Co.,	[illegible]	291,598
Shawmut Coal Co.,	[illegible]	259,398
Blossburg Coal Co.,	[illegible]	36,570
Morris Run Coal Co.,	[illegible]	1[illegible]3,541
Magee and Ellsworth Coal Co.,	[illegible]	55,612
Kurtz and Rinn Coal Co.,	1	257,210
Kettle Creek Coal Co.,	[illegible]	73,696
Clearfield Coal Co.,	[illegible]	11,548
Total,	54	*219,604

*Average.

Classification of Accidents.

	Fatal.	Non-fatal.	Total.
By falls of coal,	8	4	12
By falls of slate,	7	13	20
By cars,	6	11	17
By explosion of gas,			
By electricity,			
By premature blasts,			
By powder and dynamite explosions,		3	3
By mining machinery,		1	1
By machinery in general,			
By miscellaneous causes,		1	1
Total,	21	33	54

TABLE D—Showing Occupations of Persons Killed or Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners,	17	25	42
Drivers,	2	2	4
Spraggers,	1		1
Scrapers,	1	1	2
Timbermen,		1	1
Trip runner,		1	1
Coal loader,		1	1
Engineer and electrician,		1	1
Door tender,		1	1
Total,	21	33	54

TABLE E—Nationality of Persons Killed and Injured.

	Germans.	Americans.	English.	Hungarians.	Swedes.	Irish.	Welsh.	Poles.	Slavs.	Italians.	Austrians.	Scotch.	Totals.
Killed,		3	1	1	1		1	1	12	8	2	1	21
Injured,	1	5	7	2	3	1		3		3	1	5	33
Total,	1	8	8	3	4	1	1	4	1	11	3	6	54

Description of Bradford County Mines.

There are only two mines in this county; these are being operated by the Long Valley Coal Company.

There was measured therein at date of last visit 25,220 cubic feet of air, which was conveyed to the inner workings in one current.

These mines were well ventilated and drained.

Clearfield County Mines.

The Rochester and Pittsburg Coal and Iron Co., operates one mine in this county, namely, the Helvetia slope. This mine was inspected three times during the year. At inlet on the last visit 68,000 cubic feet of air was measured which was divided into three splits. This mine was well ventilated, but the drainage was in only fair condition.

Rochester mine operated by the Jefferson, Clearfield Coal and Iron Co. A volume of 89,000 cubic feet was measured at the inlet of this mine, but was not conducted to working faces at sufficient velocity. Drainage was good.

Pancoast Mine.—This mine was in good condition generally.

Sandy Lick Mine.—This mine was in good condition at each visit.

Berwind Shaft.—This was the only shaft opening in the district. This mine generates explosive gas and is worked exclusively with locked safety lamps beyond the lamp station at bottom of shaft. On last visit a volume of 184,275 cubic feet was measured at the inlet which was divided into five splits and was fairly well conducted around the working faces. The drainage was not good.

Cataract Mine.—This mine was found in fair condition generally.

Williamsport Mine.—This mine is operated by the Clearfield Coal Co. On the last visit the ventilation was somewhat improved, but was not properly conducted to the working faces. Drainage was good.

Brittanic Mine.—This mine is located at Karthaus and operated by Geo. Rees & Co. On the last visit it was not in good condition as regards ventilation, and the owners were requested to change the location of the furnace so as to increase the power of the same. The drainage was in fair condition.

Mosquito Creek Mine.—This mine is operated by the Mosquito Creek Coal Mining Co., and is located at Karthaus.

This is a new opening made during the year. The owners were notified to furnish some means of producing ventilation, also to have a mine foreman.

Mt. Carmel mine.—Operated by the Mt. Carmel Coal Co. This mine was in good condition generally.

Clinton County Mines.

There are three mines in operation in this county which are operated by the Kettle Creek Coal Mining Co. These mines were operated very steadily during the year. The No. 1 colliery of this company was well ventilated and drained. There was measured 18,900 cubic feet of air in circulation which was properly conducted to the face of the workings.

The 24,000 cubic feet of air in circulation in the No. 2 mine was being conveyed to the face of the workings in two separate splits. This mine was in good condition generally.

In the No. 3 mine 25,560 cubic feet of air was measured and a sufficient portion of it was measured at the face of the workings. This mine was well drained.

Elk County Mines.

There are fourteen mines located in this county which were operated very steadily during the year.

The St. Mary's mine had a fair quantity of air distributed throughout the mine, and it was in a satisfactory condition generally.

Hazel Dell mine is a small operation and is fairly well ventilated and drained.

The North Western Mining and Exchange Co. operates four of the mines in this county.

In the No. 1 colliery there was 44,160 cubic feet of air being distributed to the inner workings in three separate air currents, and it was in excellent condition generally.

At No. 2 mine there was a sufficient quantity of air measured at both inlet and outlet, but the total volume was only fairly well distributed to the face of the workings.

In No. 3 mine 34,000 cubic feet of air was being produced which was being conducted to the face of the inner workings in two separate currents. There was a sufficient quantity of air distributed throughout the mine. The drainage was also good.

At Eureka Slope colliery there was not a sufficient quantity of air being produced for such a mine. The air was not properly conducted to the face of the inner workings.

The Shawmut Coal Co. operates eight mines in this county. In the No. 1 and 2 mines there was a total volume of air of 36,000 cubic feet being produced for both places, which was being conducted in two currents to the workings. The air was not being properly conducted to the face of the inner workings, and the drainage also needed improvement.

Mead Run No. 2 colliery had an ample volume of air in circulation which was being properly conducted to the face of the workings. The drainage was also good.

The Shawmut Nos. 3 and 4 were each well ventilated and drained. The ventilation was well distributed to the face of the workings, and the drainage was also good.

Shawmut No. 5.—The total quantity of air produced was up to the requirements of the law, but it was not being properly conveyed to the face of the workings. The drainage of this mine needs improving.

At Shawmut No. 8 colliery the ventilation was being conveyed to the face of the workings in two separate currents. There was a sufficient quantity of air in circulation in the inner workings of the mine. The drainage was also good.

Shawmut No. 9 colliery was well ventilated, but the drainage needs improving.

Dagus Mines Nos. 4, 5 and 6 of the North Western Mining and Exchange Co. were all in very fair condition generally. There was a fair volume of air in circulation in the workings, and the drainage was reasonably good.

Jefferson County Mines.

There are twenty-two mines in this county, which were operated very steadily during the year.

The Rochester and Pittsburgh Coal and Iron Co. operates ten of the twenty-two mines as follows:

Eleanora No. 1 was in very good condition at the date of last visit. A volume of 56,000 cubic feet of air was measured which was carried to the face of the workings in two splits. The mine was very well ventilated and drained.

Eleanora No. 2 is a large mine and it is in excellent condition. At the last visit there was being distributed throughout the mine by five separate splits, 168,200 cubic feet of air per minute. There was a good current of air at the working faces in each division of the mine. The drainage was also good.

Eleanora No. 3 was in good condition generally at the date of last visit. 57,600 cubic feet of air was in circulation, which was being distributed to the different divisions of the mine by three separate currents. The drainage was also good.

Adrian No. 1 mine is a large concern giving employment to a great number of persons. This mine was producing 165,000 cubic feet of air per minute, which was conveyed to the inner workings in five splits. There was a fair quantity of air near the face of six of the entries. Explosive gas was found in several rooms and entries. The drainage was good.

Adrian No. 2 slope is a large colliery in which there is a large number of persons employed. The air is conducted to the face of the workings in five different currents. The total volume of air in circulation was 145,000 cubic feet. The average quantity of air at

the face of the different entries was over 9,000 cubic feet. This mine produces explosive gas, and the drainage needs improving.

In Walston No. 1 mine there was a very good quantity of air in circulation, but in one of the entries (known as the shaft heading) it was defective. The total volume of air measured at time of last visit was 78,400 cubic feet, which was conveyed to the face of the workings in three splits. The drainage was somewhat defective.

In Walston mine No. 4 the ventilation was conducted to the working in two splits. There were being produced in this mine 46,200 cubic feet of air. The drainage was good.

The Walston mine No. 3 was in fair condition generally. There was measured in this mine 62,000 cubic feet of air which was fairly well conveyed to the face of the workings. The drainage was in fair condition.

Beechtree Mine No. 2 was in good condition. 7,000 cubic feet of air per minute was being produced, which was being conveyed to the face of the workings in two splits. The drainage was good.

Clarion No. 4.—This mine at the last visit was ventilated by a volume of 15,540 cubic feet of air per minute which was conducted to the face of the workings. The drainage was also good.

Clarion No. 5.—This mine was found in good condition as to ventilation and drainage on each visit.

West Clarion Mine.—The condition of this mine was fair. 18,400 cubic feet was measured at the inlet on last visit, which was divided into three splits. Volumes at face was not adequate. Drainage was good.

London Mine.—This mine was visited three times during the year. The air measured on the last visit was 97,800 cubic feet at the inlet and was fairly well distributed. The drainage was good.

Klondike Mine.—This mine is comparatively new, and only fifteen men were employed at the time of last visit. A volume of 13,500 cubic feet was measured at the inlet which was conducted in one current around the workings. Drainage was in fair condition.

Coal Glen Nos. 1 and 2 operated by the Jefferson Coal Co. The measurements of air on the last visit was 59,000 cubic feet, which was divided into two separate currents and was carried up to face of workings. Drainage was good.

Coal Glen Nos. 3 and 4 mines were both in good condition. 52,100 cubic feet of air were measured going into the mines on my last visit and was well distributed throughout the workings. The drainage was fairly good.

Walston No. 5 is operated by S. A. Rinn. The mine was found in good condition as to ventilation and drainage.

Brock colliery operated by Joseph Reilly & Co. had a very fair volume of air in circulation, which was being conducted to the work-

ings in two splits, but it was only fairly well distributed to the working faces. The drainage was good.

The Kurtz mine, operated by Kurtz & Rinn, was in a very good condition both in regard to ventilation and drainage. There was 27,000 cubic feet of air in circulation which was conveyed to working faces in two splits. The drainage was good.

Lycoming County Mines.

There are two mines in operation in this county and they were in very good condition both in regard to ventilation and drainage.

McKean county Mines.

There are two mines located in this county. At the Instanter mine the ventilation has been greatly improved recently. There is now a sufficient quantity of air at the face of the workings. Also the drainage has been improved considerably.

Lyman mine is a small operation and it was in very poor condition. There was not a sufficient quantity of air at the face of the workings to afford a measurement by the anamometer. The drainage also needed improving.

Tioga County Mines.

There were nine mines in operation in this county during the year. Six of the mines were operated very steadily during the year; but the mines operated by the Blossburg Coal Co. were idle more than five months owing to a strike about price of mining.

At Bear Run mine there were about 45,000 cubic feet of air in circulation which was being fairly well distributed to the face of the workings. The drainage was somewhat defective.

When Maple Hill mine was last examined it was found to be in very good condition both in respect to ventilation and drainage.

Arnot Mine No. 5 was found in fair condition generally. The drainage was somewhat defective, but a volume of 115,000 cubic feet of air was circulating, which was very well distributed to the face of the mine.

At Arnot mine No. 3 there was an ample volume of air in circulation. As 45,600 cubic feet was measured, but was not properly conveyed to the face of the workings. The drainage of the mine needs improving.

At the Morris Run Coal Mining Company's two collieries there was 21,200 cubic feet of air in circulation at No. 2 and in No. 1 there was 21,900 cubic feet which was conveyed to the face of the workings in two separate currents. The drainage was in fair condition.

At the Antrim mines (operated by Magee & Ellsworth) the No. 2 mine, a volume of 61,800 cubic feet of air was measured circulating in

the workings thereof. The drainage of this mine was also good, hence it was found in excellent condition generally.

At the first and second visit to Antrim No. 5 there were not any air currents circulating therein, but at the last visit the mine was in good condition generally as a volume of 52,500 cubic feet of air per minute was found circulating; the drainage was good.

The improvements at the different mines of the Rochester & Pittsburgh Coal Company during the past year have been as follows:

Helvetia.—Have set two 72″x18′ boilers and one air compressor at the Stanley pumping station.

Eleanora.—Have installed one 20′ fan to ventilate No. 3 mine, and on McKee's Run there has been established a new power and pumping plant for No. 2 mine, also set four 72″x18′ boilers and two air compressors.

Adrian.—Have rebuilt 33 coke ovens and added a block of 25 new ones.

Florence.—Have done considerable inside development and made outside improvements as follows: Set four 72″x18′ boilers, two air compressors, erected a large tipple with two screening rigs, set one very heavy hoisting engine and one 20 foot fan and erected a brick engine, compressor and boiler house and frame carpenter and blacksmith shop and mule barns.

Elk Run Shaft.—Installed a compound condensing pump, having a capacity of 5,000 gallons per minute and are now draining a large part of Walston mine water into this shaft. Have also done considerable inside development in the way of driving headings, timbering, etc.

Walston.—Have re-built 150 coke ovens and also rebuilt the slack coal storage bins.

TABLE I—Names of Operators, etc., and Location of Collieries in the Fourth Bituminous District, 1899.

Names of Collieries.	County.	Name of Operators.	Name of General Superintendent.	Postoffice Address.
Walston No. 1.	Jefferson,	Rochester and Pittsburgh Coal and Iron Co.,	E. W. Robinson.	
Walston No. 3.	Jefferson,	Rochester and Pittsburgh Coal and Iron Co.,	E. W. Robinson.	
Walston No. 4.	Jefferson,	Rochester and Pittsburgh Coal and Iron Co.,	E. W. Robinson.	
Adrian Nos. 1 and 2,	Jefferson,	Rochester and Pittsburgh Coal and Iron Co.,	E. W. Robinson.	
Beechtree Nos. 3 and 4.	Jefferson,	Rochester and Pittsburgh Coal and Iron Co.,	E. W. Robinson.	
Ebenezra No. 1,	Jefferson,	Rochester and Pittsburgh Coal and Iron Co.,	E. W. Robinson.	
Ebenezra No. 2.	Jefferson,	Rochester and Pittsburgh Coal and Iron Co.,	E. W. Robinson.	
Ebenezra No. 3.	Jefferson,	Rochester and Pittsburgh Coal and Iron Co.,	E. W. Robinson.	
Helvetia, Nos. 1 and 2,	Clearfield,	Rochester and Pittsburgh Coal and Iron Co.,	E. W. Robinson.	
West Clarion No. 1 and 4.	Jefferson,	North Western Mining and Exchange Co.		
Dagus No. 1,	Elk,	North Western Mining and Exchange Co.		
Eureka,	Elk,	North Western Mining and Exchange Co.		
Foby No. 2,	Elk,	North Western Mining and Exchange Co.		
Clarion No. 4,	Elk,	North Western Mining and Exchange Co.		
Clarion No. 5,	Elk,	North Western Mining and Exchange Co.		
Rochester Mine,	Clearfield,	Jefferson and Clearfield Coal and Iron Co.,	L. W. Robinson.	
Lumber Mine,	Jefferson,	Jefferson and Clearfield Coal and Iron Co.,	L. W. Robinson.	
Paterson Mine,	Jefferson,	Jefferson and Clearfield Coal and Iron Co.,	L. W. Robinson.	
Shawmut No. 1.	Elk,	Shawmut Mining Co.		
Shawmut No. 2,	Elk,	Shawmut Mining Co.		
Shawmut No. 5.	Elk,	Shawmut Mining Co.		
Shawmut Nos. 8 and 9.	Elk,	Shawmut Mining Co.		
Arnot Nos. 3 and 5,	Tioga,	Blossburg Coal Co.,	James F. Gardner.	
Bear Run,	Tioga,	Blossburg Coal Co.,	James F. Gardner.	
Maple Hill,	Tioga,	Blossburg Coal Co.,	James F. Gardner.	
North Drift,	Tioga,	Blossburg Coal Co.,	James F. Gardner.	
Jones Mine No. 1.	Tioga,	Morris Run Coal Mining Co.,	W. S. Nearing,	Morris Run.
New Mine No. 2,	Tioga,	Morris Run Coal Mining Co.,	W. S. Nearing,	Morris Run.
Antrim No. 1.	Tioga,	Magee & Ellsworth,	William Howell.	
Antrim No. 5.	Tioga,	Magee & Ellsworth,	William Howell.	
Berwind shaft,	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Cataract,	Clearfield,	Berwind-White Coal Mining Co.,	J. A. Crist.	
Coal Glen No. 1.	Jefferson,	Jefferson Coal Co.,	Austin Blakeslee.	
Coal Glen No. 2.	Jefferson,	Jefferson Coal Co.,	Austin Blakeslee.	
Kurtz Mine,	Jefferson,	Kurtz & Rinn,	S. A. Rinn.	
Walston No. 7	Jefferson,	Kurtz & Rinn,	S. A. Rinn.	
Kettle Creek No. 1.	Clinton,	Ketttle Creek Coal Mining Co.,	Geo. L. Miller,	Bitumen.
Kettle Creek No. 2,	Clinton,	Ketttle Creek Coal Mining Co.,	Geo. L. Miller,	Bitumen.
Williamsport Mines,	Clearfield,	Clearfield Coal Co.,	James G. Dunsmore.	
St. Mary's Mines,	Elk,	St. Mary's Coal Co.,	I. B. Coryell.	
Red Run Mines,	Lycoming,	Red Run Coal Co.		
Long Valley Mines,	Bradford,	Long Valley Coal Co.,	O. A. Baldwin,	Towanda.
Brock Mine,	Jefferson,	Jos. H. Reilley & Co.		

Instanter,	McKean,	Buffalo Coal Co.,	C. D. R. Stonits.
Lyman,	McKean,	J. F. Keating, Lessee,	C. D. R. Stonits.
Brittanic,	Clearfield,	Geo. Rees & Co.	
Mt. Carmel,	Clearfield,	S. E. Emrick,	S. E. Emrick.
Hazel Dell,	Elk,	Kaul & Hall.	

TABLE I —Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Addrdess.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Walston No. 1,	T. R. Johns,	Walston,		A. J. Johnson,	D. E. Tracey.
Walston No. 3,	T. R. Johns,	Walston,		W. E. Dayton.	
Walston No. 4,	T. R. Johns.	Walston,		W. E. Dayton.	
Adrian Nos. 1 and 2,	A. W. Calloway,	De Lancy,		D. B. Dunsmore,	Chas Cunningham.
Beechtree Nos. 3 and 4,	J. B. Ryan,	Beachtree,		A. J. Johnson,	J. H. Davis.
Elenora No. 1,	James Craig,	Elenora,		Alexander Pryde,	E. E. Hendieliter.
Elenora No. 2,	James Craig,	Elenora,		James Moran,	Mike Sullivan.
Elenora No. 3,	James Craig,	Elenora,		Robert Patterson.	
Helvetia. Nos. 1 and 2,	F. S. Lowther,	Helvetia,		John Ryan,	John Baker.
West Clarion No. 1 and 4,	Joseph Bailey,	Brockwayville,		John Aiken,	C. R. Fritz.
Dagus No. 1,	Joseph Bailey,	Brockwayville,		P. J. Fleming,	James Whamond.
Eureka,	Joseph Bailey,	Brockwayville,		P. J. Fleming,	James Whamond.
Toby No. 3,	Joseph Bailey,	Brockwayville,		Robert Hawkins,	James Whamond.
Clarion No. 4,	Joseph Bailey,	Brockwayville,		J. A. Cunningham,	John Moore.
Clarion No. 5,	Joseph Bailey,	Brockwayville,		Archibald Donaldson,	John Moore.
Rochester Mine,	John Reed,	Dubois,		William Patterson.	
London Mine,	John Reed,	Dubois.			
Pancoast Mine,	John Reed,	Dubois,		William Reed.	
Shawmut No. 1,	Henry Redding,	Cartwright,		David Nicol,	L. J. F. Rooney.
Shawmut No. 2,	Henry Redding,	Cartwright,		Arnold Hirsh.	
Shawmut No. 5,	Henry Redding,	Cartwright,		P. A. Jordan.	
Shawmut Nos. 8 and 9,	Henry Redding,	Cartwright,		A. White.	
Arnot Nos. 3 and 5,	F. B. Lincoln,	Arnot,	F. H. Dartt,	T. S. Heron,	Alex. Logan.
Bear Run,	F. B. Lincoln,	Arnot,	F. H. Dartt,	Robt. Cristie,	Robt. Cristie.
Maple Hill,	F. B. Lincoln,	Arnot,	F. H. Dartt,	Richard Simpson,	Richard Simpson.
North Drift,	F. B. Lincoln,	Arnot,	F. H. Dartt,	T. S. Heron,	T. S. Heron.
Jones Mine No. 1,	W. S. Nearing,	Morris Run,		Michiel Driscoll,	Jas. C. Hadley.
New Mine No. 2,	W. S. Nearing,	Morris Run,		Campbell Haddow,	Jas. C. Hadley.
Antrim No. 1,	James Pollock,	Antrim,		James Pollock,	C. E. Burgess.
Antrim No. 3,	James Pollock,	Antrim,		Ernest Coupe,	C. E. Burgess.
Berwind shaft,	Chas. E. Sharpless,	Dubois,		James Harvey,	O. B. Shobert.
Cataract,	A. J. Cook,	Bellefonte,		Richard Gray.	
Coal Glen No. 1,	Austin Blakeslee,	Coal Glen,		John M. Jones,	G. W. Blakeslee.
Coal Glen No. 2,	Austin Blakeslee,	Coal Glen,		John M. Jones,	G. W. Blakeslee.
Kurtz Mine,	Samuel A. Rinn,	Punxsutawney.			
Walston No. 5,	Thos. McMillen,	Punxsutawney,		Thos. McMillen.	
Kettle Creek No. 1,	Geo. L. Miller,	Bitumen,		James Ward.	
Kettle Creek No. 2,	Geo. L. Miller,	Bitumen,		James Ward.	
Williamsport Mines,	James G. Dunsmore,	Tyler,		Arthur Mitchell.	
St. Mary's Mines,	Joseph Eddy,	St. Mary's,		Joseph Eddy.	
Red Run Mines,	D. B. Allison,	Roaring Branch,		James Davidson.	
Long Valley Mines,	R. E. Dunston,	Towanda,		W. R. Jones.	
Brock Mine,	John E. Reilly,			Henry J. Thomas,	Henry J. Thomas.

Instanter,	J. H. Tate,	.....	.....	James Malney.
Lyman,	J. H. Tate,	.....	.....	J. F. Keating.
Brittanic,	George Rees.			
Mt. Carmel,				
Hazel Dell,	Andrew Kaul,	St. Mary's.		

TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder etc., used, in the Fourth Bituminous District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Rochester & Pittsburgh Coal and Iron Co.													
Walston,	Jefferson,	383,144	32,069	2,221	815,408	226,994	272	956	2	4	4,500	7,500	98
Adrain,	Jefferson,	580,593	26,000	3,790	837,432	145,204	264	886	2	5	4,500	6,000	120
Beechtree,	Jefferson,	66,394	3,000	749	70,143	.....	82	132	1	.....	400	.....	12
Elenora,	Jefferson,	859,603	28,000	4,411	1,001,360	74,512	262	927	4	3	4,000	5,500	120
Helvetia,	Clearfield,	201,239	11,500	1,718	229,918	11,595	229	306	1	3	1,400	4,015	39
Total,		2,091,273	100,569	12,889	2,954,261	458,305	253	3,201	11	15	14,800	23,015	389
North Western Mining and Exchange Co.													
West Clarion,	Jefferson,	245,216	1,355	522	247,093	.....	264	228	.....	2	1,600	500	32
Clarion No. 4,	Elk,	292,646	1,308	1,491	295,445	.....	263	360	3	.....	1,534	250	42
Dagus Mines,	Elk,	342,816	3,918	2,698	349,432	.....	238	602	.....	.....	2,700	2,700	73
Total,		880,678	6,581	4,711	891,970	.....	255	1,190	3	2	5,734	3,550	117
Jefferson and Clearfield Coal and Iron Co.													
Rochester Mine,	Clearfield,	401,634	7,000	640	409,274	.....	239	349	.....	.....	2,500	1,500	35
London Mine,	Jefferson,	442,364	6,000	.....	448,364	.....	239	301	.....	2	2,700	250	34
Pancoast Mine,	Jefferson,	41,157	.....	.....	41,157	.....	244	56	.....	1	180	.....	4
Total,		885,155	13,000	640	898,795	.....	241	706	.....	3	5,380	1,750	73

Shawmut Mining Co.													
Shawmut No. 1,	Elk,	114,716	76	1,364	116,156	.....	267	118	.....	.....	1,200	50	24
Shawmut No. 2,	Elk,	224,832	27	.....	224,859	.....	273	277	1	.....	2,400	100	36
Shawmut No. 5,	Elk,	80,917	1,537	344	82,498	.....	287	142	.....	.....	700	50	.....
Shawmut No. 8,	Elk,	90,838	4,199	246	95,283	.....	270	135	1	.....	700	50	18
Total,		511,603	5,839	1,954	518,796	.....	274	692	2	.....	5,000	250	78
Blossburg Coal Co.													
Arnot Nos. 3 and 5,	Tioga,	152,488	1,500	2,468	156,847	293	110	658	.....	4	.....	.....	61
Bear Run,	Tioga,	90,548	1,478	266	92,292	.....	123	348	1	2	.....	.....	.....
Maple Hill,	Tioga,	3,465	.....	.....	3,465	.....	155	21	.....	.....	.....	.....	2
Arnot, North Drift,	Tioga,	3,390	.....	.....	3,390	.....	37	76	.....	.....	.....	.....	7
Total,		249,891	2,978	2,734	255,994	293	106	1,083	1	6	.....	.....	70
Morris Run Coal Co.													
Jones Mine No. 1,	Tioga,	220,019	2,400	4,000	226,419	.....	244	508	1	1	.....	.....	34
New Mine No. 2,	Tioga,	40,664	.....	.....	40,664	.....	217	100	.....	.....	.....	.....	11
Total,		260,683	2,400	4,000	267,083	.....	230.5	668	1	1	.....	.....	45
Magee & Ellsworth.													
Antrim No. 1,	Tioga,	33,841	.....	998	34,839	.....	212	77	.....	2	.....	.....	11
Antrim No. 5,	Tioga,	76,385	.....	.....	76,385	.....	220	172	.....	.....	.....	.....	4
Total,		110,226	.....	998	111,224	.....	216	249	.....	2	.....	.....	15
Berwind White Coal Mining Co.													
Berwind Shaft,	Clearfield,	150,919	15,600	200	166,719	.....	269	177	.....	.....	1,200	7,500	13
Cataract,	Clearfield,	41,742	33	254	42,029	.....	232	73	.....	.....	627	.....	17
Total,		192,661	15,633	454	208,748	.....	260.5	250	.....	.....	1,827	7,500	30
Jefferson Coal Co.													
Coal Glen Nos. 1 and 2,	Jefferson,	244,929	2,000	1,000	247,929	.....	240	305	.....	.....	2,100	2,000	28
Kurtz & Rinn.													
Kurtz Mine,	Jefferson,	146,000	110	.....	146,110	.....	263	131	.....	.....	1,750	.....	18
Walston Mine No. 3,	Jefferson,	110,000	610	600	111,100	.....	262	132	1	.....	1,800	25	15
Total,		256,000	610	600	257,210	.....	262.5	263	1	.....	3,550	25	33
Kettle Creek Coal Mining Co.													
Kettle Creek Mines,	Clinton,	221,090	.....	.....	221,090	.....	275	235	2	1	1,800	200	30
Clearfield Coal Co.													
Williamsport Mine,	Clearfield,	51,969	2,499	1,082	124,554	36,666	289	212	.....	3	925	125	17
St. Mary's Coal Co.													
St. Mary's Mines,	Elk,	21,221	.....	.....	21,221	.....	308	75	.....	.....	.....	.....	.....

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Red Run Coal Co.													
Red Run Mines,	Lycoming,	100,949	650	325	101,924	.....	267	203	.....	.....	2,228	450	5
Long Valley Coal Co.													
Long Valley Mines,	Bradford,	31,285	166	384	31,835	.....	197	68	.....	.....	832	.....	11
Joseph H. Reilley & Co.													
Brock Mine,	Jefferson,	65,210	962	392	66,564	.....	241	132	.....	.....	550	.....	1
Mt. Carmel Coal Co.													
Mt. Carmel Mine,	Clearfield,	1,500	.....	.....	1,500	.....	.....	11	.....	.....	.....	.....	2
Geo. Rees & Co.													
Brittanic,	Clearfield,	13,350	.....	250	13,600	.....	200	37	.....	.....	.....	.....	3
Buffalo Coal Co.													
Instanter,	McKean,	23,995	470	970	25,435	.....	238	53	.....	.....	.....	1,500	7
Kaul & Hall.													
Hazel Dell Mine,	Elk,	27,108	100	.....	27,208	.....	278	57	.....	.....	185	.....	4
Grand total,	.....	6,240,176	154,928	33,383	7,246,941	495,264	286	9,630	21	33	44,911	40,365	978

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
Rochester & Pittsburgh Coal and Iron Co.																	
Walston,	Jefferson,	.....	.....	20	1,760	1,760	3	.....	.....	7	480	5	.....	1,750	.....	3	700
Adrain,	Jefferson,	8	400	11	860	1,260	3	1	.....	6	200	4	2,000	1,000	.....	5	476
Beechtree,	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Elenora,	Jefferson,	2	120	14	1,600	1,720	1	.....	.....	5	400	3	1,850	1,000	.....	4	201
Helvetia,	Clearfield.	.....	.....	8	720	720	.....	.....	.....	2	175	3	3,200	2,400	.....	1	40
Total,		10	520	53	4,940	5,460	7	1	.....	21	1,255	15	7,050	6,150	.....	13	1,417
North Western Mining and Exchange Co.																	
West Clarion,	Jefferson,	.....	.....	2	250	250	.....	.....	.....	1	.....	.....	.....	.....	1	.....	.....
Clarion No. 4,	Elk,	.....	.....	2	250	250	2	.....	.....	1	.....	.....	.....	.....	1	.....	.....
Dagus Mines,	Elk,	4	200	4	300	500	2	.....	.....	8	.....	.....	.....	.....	.....	.....	.....
Total,		4	200	8	800	1,000	4	.....	.....	10	.....	.....	.....	.....	2	.....	.....
Jefferson and Clearfield Coal and Iron Co.																	
Rochester Mine,	Clearfield,	.....	.....	11	1,170	1,170	.....	.....	.....	3	400	4	15,200	7,500	.....	3	.....
London Mine,	Jefferson,	.....	.....	7	850	850	.....	.....	.....	3	300	2	1,400	1,400	.....	3	.....
Pancoast Mine,	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,		.....	.....	18	2,020	2,020	.....	.....	.....	6	700	6	16,600	8,900	.....	6	.....

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
Shawmut Mining Co.																	
Shawmut No. 1	Elk																
Shawmut No. 2	Elk						2			2		1	1,800	900			
Shawmut No. 3	Elk			3	240	240			4	1	86	2	438	438	1		
Shawmut No. 5	Elk			4	400	400			4	2	100	2	438	438	1	1	
Total				7	640	640	2		8	5	186	5	2,676	1,776	2	1	
Elkesburg Coal Co.																	
Arnot Nos. 2 and 3	Tioga			3	240	240	2			3	260						100
Bear Run	Tioga			3	270	270			4	4	335				3		
Maple Hill	Tioga																
Arnot, North Drift	Tioga						1										
Total				6	510	510	3		4	7	595				3		100
Marsh Run Coal Co.																	
Jones Mine No. 1	Tioga			3	240	240											
New Mine No. 2	Tioga																
Total				3	240	240											
Magee & Ellsworth.																	
Antrim No. 1	Tioga	2	200			200				2						1	
Antrim No. 2	Tioga	2	200			200				2							
Total		4	400			400				4							

Berwind White Coal Mining Co.																	
Berwind Shaft,	Clearfield,			9	1,200	1,200				4	250	5	9,200	2,800		1	
Cataract,	Clearfield,																
Total,				9	1,200	1,200				4	250	5	9,200	2,800		1	
Jefferson Coal Co.																	
Coal Glen Nos. 1 and 2,	Jefferson,			2	310	310	3	1		4						2	
Kurtz & Rinn.																	
Kurtz Mine,	Jefferson,			1	100	100	1										
Walston Mine No. 5,	Jefferson,			1	125	125	1			3	240						
Total,				2	225	225	2			3	240						
Kettle Creek Coal Mining Co.																	
Kettle Creek Mines,	Clinton,																
Clearfield Coal Co.																	
Williamsport Mine,	Clearfield,	5	520			520			2	6	476				1		100
St. Mary's Coal Co.																	
St. Mary's Mines,	Elk,											1	300	200			
Red Run Coal Co.																	
Red Run Mines,	Lycoming,			2	200	200	1		2	2	120				1		
Long Valley Coal Co.																	
Long Valley Mines,	Bradford,			2	160	160	1										
Joseph H. Reilley & Co.																	
Brock Mine,	Jefferson,			2	60	60			2	1	60				1		
Mt. Carmel Coal Co.																	
Mt. Carmel Mine,	Clearfield,																
Geo. Rees & Co.																	
Brittanie,	Clearfield,																
Buffalo Coal Co.																	
Instanter,	McKean,						1										
Kaul & Hall																	
Hazel Dell Mine,	Elk,																
Grand total,		22	1,640	114	11,275	12,415	24	2	18	73	3,882	32	35,826	19,826	10	24	1,617

TABLE III—Showing the number of each class of employes at each colliery in the Fourth Bituminous District, during the year 1899.

Names of Collieries	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Rochester and Pittsburgh Coal and Iron Co.																
Walston mines	2	.....	569	.....	61	11	25	668	1	7	23	2	3	252	288	956
Adrain mines	1	2	520	.....	70	10	35	638	2	8	18	1	3	210	242	880
Beechtree mines	1	.....	104	.....	5	3	6	119	.....	2	2	.....	2	7	13	132
Elenora mines	3	.....	621	37	91	10	.....	762	2	9	18	1	3	132	165	927
Helvetia mines	1	.....	237	.....	22	8	7	275	1	4	7	.....	2	17	31	306
Total	8	2	2,051	37	249	42	73	2,462	6	30	68	4	13	618	739	3,201
North Western Mining and Exchange Co.																
West Clarion	2	.....	164	.....	15	.....	23	204	1	4	1	1	5	12	24	228
Clarion No. 4	3	.....	257	.....	23	.....	29	312	1	10	3	1	6	27	48	360
Dagus mines	3	.....	462	.....	35	1	22	523	1	17	6	2	7	46	79	602
Total	8	.....	883	.....	73	1	74	1,039	3	31	10	4	18	85	151	1,190
Jefferson and Clearfield Coal and Iron Co.																
Rochester mine	1	.....	273	.....	30	6	10	320	.....	3	7	.....	2	17	29	349
London mine	1	.....	236	.....	30	5	8	280	.....	3	8	.....	.....	10	21	301
Pancoast mine	1	.....	50	.....	2	.....	1	54	.....	.....	.....	.....	.....	2	2	56
Total	3	.....	559	.....	62	11	19	654	.....	6	15	.....	2	29	52	706

Shawmut Mining Co.																
Shawmut No. 1,	1	.....	99	.....	7	.....	4	102	1	2	.....	1	1	11	16	118
Shawmut No. 2,	1	.....	235	.....	21	.....	8	255	.....	3	3	1	1	14	22	277
Shawmut No. 5,	1	.....	95	10	8	3	3	120	.....	2	2	1	1	16	22	142
Shawmut No. 8,	1	.....	110	.....	10	1	3	125	.....	4	4	1	1	20	30	155
Total,	4	.....	539	10	46	4	18	602	1	11	9	4	4	61	90	692
Blossburg Coal Co.																
Arnot Nos. 3 and 5,	3	.....	441	.....	53	14	22	533	1	6	4	69	3	42	125	658
Bear Run,	2	.....	286	.....	.....	2	24	314	1	6	5	.....	.....	22	34	348
Maple Hill,	1	.....	15	.....	2	.....	.....	18	.....	1	.....	.....	.....	2	3	21
Arnot North drift,	1	.....	33	.....	5	1	5	45	.....	.....	2	.....	.....	9	11	56
Total,	7	.....	775	.....	60	17	51	910	2	13	11	69	3	75	173	1,083
Morris Run Coal Mining Co.																
Jones Mine No. 1,	1	.....	374	.....	45	27	15	462	1	6	3	22	7	7	46	508
New Mine No. 2,	1	.....	67	.....	10	5	6	89	.....	2	.....	6	.....	3	11	100
Total,	2	.....	441	.....	55	32	21	551	1	8	3	28	7	10	57	608
Magee and Ellsworth.																
Antrim No. 1,	1	.....	43	9	4	.....	1	58	1	1	2	9	2	4	19	77
Antrim No. 5,	1	.....	97	9	11	3	6	127	1	3	2	24	2	13	45	172
Total,	2	.....	140	18	15	3	7	185	2	4	4	33	4	17	64	249
Jefferson Coal Co.																
Coal Glen Nos. 1 and 2,	1	.....	255	12	11	.....	.....	279	1	3	4	.....	2	16	26	305
Kurtz & Rinn.																
Kurtz mine,	1	.....	115	.....	6	1	2	125	.....	2	1	.....	1	2	6	131
Waiston No. 5,	1	.....	115	3	6	.....	.....	125	.....	2	3	.....	1	1	7	132
Total,	2	.....	230	3	12	1	2	250	.....	4	4	.....	2	3	13	263
Berwind White Coal Mining Co.																
Berwind shaft,	1	2	115	20	9	2	8	157	1	3	6	2	2	6	20	177
Cataract,	1	.....	55	6	2	2	1	67	.....	1	.....	1	1	3	6	73
Total,	2	2	170	26	11	4	9	224	1	4	6	3	3	9	26	250
Kettle Creek Coal Mining Co.																
Kettle Creek mines,	1	.....	180	.....	17	5	7	210	.....	3	.....	6	2	14	25	235
Clearfield Coal Co.																
Williamsport mine,	1	.....	150	.....	6	2	4	163	.....	2	5	.....	2	40	49	212
St. Mary's Coal Co.																
St. Mary's mines,	1	.....	62	2	5	.....	3	73	.....	1	.....	.....	1	.....	2	75

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Red Run Coal Co.																
Red Run mines,	1	.....	137	9	.....	.....	13	160	.....	5	2	8	3	25	43	203
Long Valley Coal Co.																
Long Valley mines,	1	.....	40	.....	3	1	4	49	.....	2	2	5	3	7	19	68
Joseph H. Reilley & Co.																
Brock mine,	1	.....	101	12	4	.....	3	121	.....	2	2	1	1	5	11	132
Mt. Carmel Coal Co.																
Mt. Carmel mines,	.....	.....	9	1	1	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	11
George Rees & Co.																
Brittanic,	1	.....	30	3	2	.....	.....	36	.....	.....	.....	.....	1	.....	1	37
Buffalo Coal Co.																
Instanter,	1	.....	31	.....	5	.....	10	47	.....	2	2	1	1	.....	6	53
Kaul & Hafl.																
Hazel Dell mine,	1	.....	44	.....	4	2	2	53	1	2	.....	.....	1	.....	4	57
Grand total,	48	4	6,808	133	641	125	320	8,079	18	133	147	166	73	1,014	1,551	9,630

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Rochester and Pittsburgh Coal and Iron Co.													
Walston mines	25	22	26	25	26	7	13	26	26	26	25	25	272
Adrain mines	25	22	25	25	25	6	13	25	25	25	25	25	264
Beechtree mines	4	4	16	11	19	4	6	7					82
Elenora mines	18	21	25	25	25	3	13	23	25	24	25	25	262
Helvetia mines	19	20	24	22	19	3	10	17	23	23	25	24	229
Total and average	22.40	17.80	23.20	21.60	22.40	4.60	11	19.60	19.80	19.60	20	19.80	253
North Western Mining and Exchange Co.													
West Clarion	25	22	25	22	19	6	24	25	24	25	24	23	264
Clarion No. 4	24	22	24	23	20	8	23	24	23	24	24	24	263
Dagus mines	24	20	26	23	17	7	18	23	23	14	25	23	228
Total and average	24.33	21.33	25	22.67	18.67	5.33	21.67	24	22.33	21	24.33	23.33	255
Jefferson and Clearfield Coal and Iron Co.													
Rochester mine	20	20	20	25	23	9	11	26	23	21	24	23	230
London mine	20	20	20	24	23	9	11	20	23	22	24	23	239
Pancoast mine	20	20	20	22	25	9	11	23	24	23	24	23	244
Total and average	20	20	20	23.67	23.67	9	11	21	23.33	22	24	23	240.67

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Shawmut Mining Co.													
Shawmut No. 1,	25	22	24	21	21	22	19	23	23	24	22	21	267
Shawmut No. 2,	25	23	24	21	23	23	19	25	23	24	23	20	276
Shawmut No. 7,	25	22	26	23	25	25	25	25	23	23	23	23	287
Shawmut No. 8,	24	20	26	22	23	23	18	25	23	22	23	21	270
Total and average,	24.75	21.75	25	21.75	23	23.25	20.25	24.75	23	23	22.50	21.25	274.25
Blossburg Coal Co.													
Arnot Nos. 3 and 5,	24	19	24	17	16	10	.....	.....	.....	.....	.....	.....	110
Bear Run,	22	17	24	18	16	11	.....	.....	.....	.....	.....	15	123
Marsh Hill,	25	19	27	25	26	13	.....	.....	.....	.....	.....	20	155
Arnot North drift,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	24	37
Total and average,	17.75	13.75	18.75	15	14.50	8.50	.....	.....	.....	.....	3.25	14.75	16.25
Morris Run Coal Mining Co.													
Jones Mine No. 1,	26	24	27	20	23	17	22	11	.....	24	25	25	244
New Mine No. 2,	22	19	25	18	15	14	17	11	.....	25	26	25	217
Total and average,	24	21.50	26	19	19	15.50	19.50	11	.....	24.50	25.50	25	230.50

Magee and Ellsworth.													
Antrim No. 1,	19	19	10	12	10	8	10	26	25	26	23	24	212
Antrim No. 5,	18	14	12	12	9	8	23	24	26	26	24	24	220
Total,	18.50	16.50	11	12	9.50	8	16.50	25	25.50	26	23.50	24	216
Jefferson Coal Co.													
Coal Glen Nos. 1 and 2,	22	21	27	25	23	25	16	11	8	16	22	24	240
Kurtz & Rinn.													
Kurtz mine,	24	16	26	25	25	10	9	26	25	26	26	25	263
Walston No. 5,	24	17	26	25	27	8	8	25	26	26	26	24	262
Total,	24	16.50	26	25	26	9	8.50	25.50	25.50	26	26	24.50	262.50
Berwind-White Coal Mining Co.													
Berwind shaft,	26	24	27	5	24	26	25	18	18	26	26	24	269
Cataract,	20	20	22	25	21	18	20	19	22	24	21	20	252
Total,	23	22	24.50	15	22.50	22	22.50	18.50	20	25	23.50	22	260.50
Kettle Creek Coal Mining Co.													
Kettle Creek mines,	20	23	21	21	22	23	25	20	21	27	27	25	275
Clearfield Coal Co.													
Williamsport mine,	26	24	27	22	23	26	20	23	24	25	25	24	289
St. Mary's Coal Co.													
St. Mary's mines,	26	24	27	26	27	25	26	25	25	26	25	26	308
Red Run Coal Co.													
Red Run mines,	24	21	24	21	22	20	24	17	20	26	24.50	23.50	267
Long Valley Coal Co.													
Long Valley mines,	23	20.50	24	15	13	7	6.50	4	12	23	24	25	197
Joseph H. Reilley & Co.													
Brock mine,	26	19	26	20	23	9	5	20	22	24	24	23	241
Mt. Carmel Coal Co.													
Mt. Carmel mines,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
George Rees & Co.													
Brittanic,	15	18	12	10	18	15	15	17	15	25	15	25	200
Buffalo Coal Co.													
Instanter,	23	18	24	21	16	15	17	21	20	21	18	24	238
Kaul & Hall.													
Hazel Dell mine,	24	19	22	25	26	18	16	25	25	26	26	26	278
Grand total,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	8,590

IV—List of fatal accidents that occurred in and about the mines of the Fourth Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan 6.	Robert Broadbent, ...	Driver, ...	18	S.	...	....	Adrian No. 1, ...	Jefferson,.....	Instantly killed by falling in front of trip of cars.
25.	Edward Johnson, ...	Miner, ...	14	S.	...	....	Bear Run, ...	Tioga.....	Instantly killed; was sitting in cross cut until motor and loaded trip of cars should pass him; after motor and part of trip had passed, he stepped out on road, when five cars that had parted from trip came down and ran over him, almost cutting his body in two.
30.	Joseph Mihall, ...	Miner, ...	40	M.	1	....	Clarion No. 4,.....	Jefferson,.....	Was instantly killed by fall of coal; he did not set sprags under the coal to protect himself.
Feb 3.	Carral, Adam, ...	Miner, ...	37	M.	1	3	Rinn Mine, ...	Jefferson,.....	Instantly killed by a pot hole that fell out of roof.
7.	Mike Abino, ...	Miner, ...	34	M.	1	4	Adrain No. 2, ...	Jefferson,.....	Head and body severely bruised; and died in about four hours. He had fired a shot and as it failed to bring down the coal he started to undermine it deeper, when the whole mass of coal fell upon him.
16.	James Patterson, ...	Miner, ...	60	M.	1	3	Jones Mine No. 1, ...	Tioga.....	Fatally injured, by being run over by cars; he stepped on loaded car track, and was walking on it when struck by cars.
28.	Abraham Dilville, ...	Miner, ...	50	M.	1	2	Clarion No. 4, ...	Jefferson.....	Instantly killed by fall of roof.
28.	Joseph Mazean, ...	Miner, ...	34	M.	1	2	Elenora No. 2, ...	Jefferson.....	Instantly killed by fall of coal; he had fired a shot the night before, and as it failed to bring the coal down, in the morning he undertook to mine it deeper without using the necessary precautions for his safety.

TABLE

April	7,	Albert Jenkins,	Miner,	23	M.	1	2	Adrian No. 2,	Jefferson,	Instantly killed by fall of coal; this man accompanied by William Frew and Andrew Nickol, were drawing back pillars, and they failed to use sprags under the coal.
May	5,	Baronia Mikill,	Miner,	39	M.	1	3	Beechtree No. 2,	Jefferson,	Instantly killed by being struck by a trip of empty cars. He failed to travel on the manway which is provided.
	20,	Sarro Leo,	Scraper,	24	M.	1	3	Walston slope,	Jefferson,	Instantly killed by fall of coal.
	20,	George Strang,	Driver,	23	S.	...	....	Adrain slope,	Jefferson,	Instantly killed by being run over by cars; he fell in front of the trip, which he had lost control of through not using sufficient sprags.
	22,	Mike Cherey,	Miner,	44	M.	1	3	Elenora No. 2,	Jefferson,	Fatally injured; lived four hours after the accident, which was by fall of roof. Upon investigation it was found that he had not used sufficient props for safety.
July	7,	Pasqual Piralis,	Miner,	38	M.	1	1	Mead Run No. 4,	Elk,	Instantly killed by fall of roof; he had not used sufficient props for safety.
	21,	Hubert Windows,	Miner,	34	M.	1	6	Adrian No. 2,	Jefferson,	Fatally injured by fall of coal; he lived for twenty-two hours after accident; investigation showed that he had been careless.
Aug.	16,	Fred. Sarreyam,	Miner,	36	M.	1	3	Walston No. 4,	Jefferson,	Fatally injured by fall of slate from roof; this man lived nearly two days at the hospital, where he was taken; no bones were broken, and the doctor said he died from fright.
Sept.	18,	Albert Lavonski,	Miner,	38	M.	1	2	Helvetia,	Clearfield,	Instantly killed by fall of roof; the victim was putting up a cross bar when the roof fell with the above result.
	27,	Peter Panblick,	Miner,	40	M.	1	5	Kettle Creek No. 2,	Clinton,	Fatally injured by being crushed internally by a fall of coal; the victim did not use sufficient sprags under coal; he lived three hours.
Oct.	17,	Alexander Gerano,	Miner,	23	S.	....	...	Clarion No. 5,	Jefferson,	Fatally injured by fall of roof; his leg was broken and he was injured internally; the victim did not stand sufficient props to protect himself; he lived four hours after being taken home.
	23,	Burt Walker,	Spragger,	21	S.	....	....	Shawmut No. 8,	Elk,	Instantly killed by being run over by trip of cars; he was in the act of applying the brake when he slipped and fell in front of the trip.
Dec.	27,	John Lesko,	Miner,	45	M.	1	2	Bitumen No. 2,	Clinton,	Fatally injured by fall of roof in pillar workings; the victim ventured back into the gob to knock out timber that held up the roof, and while chopping out a prop, a stone above it fell on him with above result.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Fourth Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 6.	Peter Berteotle,	Scraper,	29	S.	West Clarion,	Jefferson,	Leg broken by fall of coal.
9.	Ira Williams,	Miner,	48	M.	Arnot No. 5,	Tioga,	Jaw bone broken by fall of roof.
17.	William Nichols,	Miner,	19	S.	Williamsport,	Clearfield,	End of thumb cut off while spragging car.
17.	William Browel,	Trip runner,	20	S.	Williamsport,	Clearfield,	Bruised on head, neck and hip, by trip jumping track.
24.	Norbert Tomidy,	Miner,	60	M.	Bear Run,	Tioga,	Leg broken; was undermining when middle stone fell on him.
Feb. 4.	John Lundstrum,	Miner,	28	S.	Klondike,	Jefferson,	Leg broken by fall of coal.
7.	John Brooks,	Miner,	36	M.	Arnot No. 5,	Tioga,	Leg broken by fall of coal.
10.	Emil Johnsen,	Miner,	29	S.	London,	Jefferson,	Left leg broken by fire clay rolling on it.
22.	Robert Graham,	Miner,	13	S.	Morris Run No. 1,	Tioga,	Arm broken; fell in front of car while coming out of room.
23.	Windom Roland,	Miner,	20	S.	Walston No. 3,	Jefferson,	Left leg cut off; fell between cars on mule trip.
Mar 2.	Peter Miller,	Engr. and electrician,	36	M.	Williamsport,	Clearfield,	Right leg broken; caught between the rails and motor.
15.	Julius Rudneski,	Miner,	34	M.	Arnot No. 5,	Tioga,	Hip joint dislocated by fall of roof.
30.	Samuel Chambers,	Driver,	30	M.	Arnot No. 3,	Tioga,	Back bruised between loaded cars.
April 5.	Owen Creighton,	Miner,	59	M.	Bear Run,	Tioga,	Severe cut on back of head; stone fell upon him.
7.	Andrew Nicol,	Miner,	46	M.	Adrain No. 2,	Jefferson,	Foot injured by fall of coal.
7.	William Frew,	Miner,	35	M.	Adrain No. 2,	Jefferson,	Back injured by fall of coal.
13.	Thos. Pearson,	Miner,	66	M.	Helvetia,	Clearfield,	Body severely bruised by coal rolling on him.
May 15.	George White,	Miner,	31	M.	Kettle Creek No. 1,	Clinton,	Shoulder bone broken by fall of coal.
22.	Salvator Floraweiker,	Miner,	22	S.	Helvetia,	Clearfield,	Back and hips slightly squeezed by fall of coal.
24.	John Peters,	Miner,	18	M.	Helvetia slope,	Clearfield,	Injured internally, caught between cars.
June 5.	John Curry,	Miner,	47	M.	London,	Jefferson,	Severely bruised on body and foot, by moving cars.
8.	James Brummit,	Timberman,	37	M.	Adrian No. 1,	Jefferson,	Leg broken by jumping off car while it was in motion.

July	14.	Arthur Lakin,	Miner,	16	S.	Antrim No. 5,	Tioga,	Cut and bruised on head and face by fall of coal.
	14.	James Moore,	Trapper,	14	S.	Antrim No. 5,	Tioga,	Skull fractured; thrown from mule while taking it to stable.
Aug.	4.	John Cashure,	Miner,	22	S.	Walston No. 3,	Jefferson,	Lost one eye and burned on face by explosion of dynamite.
	4.	John Stilma,	Miner,	24	S.	Walston No. 3,	Jefferson,	Lost both eyes and burned on face by explosion of dynamite.
	21.	Swan Johnson,	Coal loader,	27	S.	Walston No. 4,	Jefferson,	Hands and face burned by explosion of powder while making up shot.
	30.	Andy Sankey,	Miner,	40	M.	Elenora No. 2,	Jefferson,	Back bruised by fall of coal.
	30.	Steve S. Sunaslon,	Miner,	26	S.	Elenora No. 2,	Jefferson,	Leg broken by fall of coal.
Oct.	3.	William Smith,	Miner,	33	M.	Adrian No. 2,	Jefferson,	Hip bone broken by fall of coal.
	3.	Frank Komach,	Miner,	17	S.	Elenora No. 2,	Jefferson,	Body severely bruised by being run over by cars.
Nov.	9.	William Nawsuc,	Miner,	24	S.	Adrain No. 1,	Jefferson,	Leg broken by fall of coal.
	27.	Dominic Petti,	Driver,	19	S.	West Clarion,	Jefferson,	Leg broken and otherwise bruised by mine cars.

Fifth Bituminous District.

FAYETTE, SOMERSET AND BEDFORD COUNTIES.

Uniontown, Pa., March 6, 1900.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor to submit my annual report as Inspector of Mines for the Fifth Bituminous district for the year ending December 31, 1899, in compliance with section II, Article X of the act of Assembly, approved May 15, 1893.

There has been an increase in the production of coal over that of last year, of 1,117,679 tons; there was a total production of 8,872,514 tons for 1899.

The total production of coke was 4,431,423 tons, being an increase of 466,754 tons over that of 1898.

The number of accidents has been increased very much this year. There were fifty fatal and seventy non-fatal, as against fourteen fatal, and sixty-four non-fatal for 1898.

	1898.	1899.
Number of tons of coal produced per fatal accident,	553,916	177,450
Number of tons of coal produced per non-fatal accident,	125,078	126,750
Number of persons employed for each fatal accident,	666	209
Number of persons employed for each non-fatal accident,	150	149¼

The increase in the number of fatal accidents is due largely to two mine explosions, whereby twenty-four lives were lost, and also to the fact that the great demand for coal made a scarcity of men to produce it, consequently each man was taxed to his utmost to furnish the coal required at the mines, and so did not give proper attention to the dangers connected with his work, and took greater risks.

There have been twenty-one new mines opened, and five abandoned in the district during the year, which makes an increase of sixteen, making a total of 82. Of these, seventy-one produced coal; the others are in course of construction and development.

The condition of the mines is upon the whole satisfactory. There is a disposition on the part of the operators to comply with the require-

ments of law. The majority of them exceed its demands and anticipate its requirements.

I find that in a great many cases where complaint has to be made, it is due to the carelessness or negligence of the mine bosses; in other cases the superintendents are to blame. They fail to furnish the necessary supplies, and otherwise cripple the mine boss in the discharge of his duties in order to save expense as they think, but, which ultimately results in a very much greater expenditure.

Where the superintendents do this, it is invariably the case that they have had no practical experience in mining.

It has always seemed to me to be a strange state of affairs to have mine foreman pass examinations, and hold certificates of competancy before they can be permitted to act as such at mines, and then place them under the control of persons who are not required, legally, to have any qualifications whatever.

It is only common sense to suppose that if the subordinate must possess certain qualifications to enable him to perform his duties properly, the superior, who controls and directs him, should have at least the same qualifications. Why operators should oppose the certificating of superintendents before they are allowed to hold their positions, I cannot understand; because it would surely result in furnishing better qualified men for that position.

If the standard of excellence in mine foremen has been raised, by requiring them to pass an examination (and there can be no denial of the fact that it has done so), would not the same result be obtained with reference to superintendents?

And if the general safety and economical operation of the mines have been promoted by having certificated mine foremen, why would not even better results be obtained in these respects if superintendents were required to pass an examination and hold certificates of competency? The certificate of a mine foreman is taken as a guarantee of his fitness and qualifiifications to discharge his duties efficiently. The same guarantee should hold good with reference to superintendents.

Then again, there is great injustice done to the mine foreman under present conditions, he is held responsible under the laws for the safety of the mine, yet has not the control or direction of it. This control and direction is vested in the superintendent, who is not responsible in any sense whatever.

Now it seems to be a common sense proposition, that the responsibility should rest upon those who have the control and direction of the operations of the mines, and were this done, there is no doubt but that the conditions for safety of the persons employed in the mines would be given more attention, the general conditions better cared for, the extraction of a greater percentage of the coal by better

methods would be insured, and the coal produced more economically.

I submit with this report the usual statistical tables, with several additional ones.

Respectfully,

CHAS. CONNOR,

Inspector.

Summary of Statistics 1899.

Number of mines in the district,	82
Number of mines in operation during 1899,	71
Number of tons of coal produced,	8,872,514
Number of tons of coal shipped,	2,214,079
Number of tons of coal used for steam at mines,	155,664
Number of tons of coal sold to employes and others,	83,056
Number of coke ovens,	8,514
Number of tons of coke produced,	4,431,423
Number of persons employed inside the mines,	6,662
Number of persons employed outside the mines,	3,786
Number of fatal accidents,	50
Number of tons of coal produced per fatal accident,	177,450
Number of non-fatal accidents,	70
Number of tons of coal produced per non-fatal accident,	126,750
Number of persons employed per fatal accident,	209
Number of persons employed per non-fatal accident,	149.27
Number of wives made widows by accidents,	26
Number of children orphaned by accidents,	81
Number of kegs of powder used,	25,524
Number of pounds of dynamite used,	40,274
Number of cylindrical boilers in use,	43
Number of tubular boilers in use,	168
Number of steam locomotives in use,	22
Number of air locomotives in use,	1
Number of electric locomotives in use,	3
Number of new mines opened,	21
Number of old mines abandoned,	5

TABLE—Showing the Production of Coal in Tons during the Year 1899.

	Tons.		Tons.
FAYETTE COUNTY.		SOMERSET COUNTY.	
H. C. Frick Coke Co.,	3,036,228	Merchant Coal Co.,	179,176
McClure Coke Co.,	558,564	Standard Coal Co.,	7,295
Pittsburgh Coal Co.,	445,444	W. D. Althouse & Co.,	15,140
W. J. Rainey,	499,713	Fairview Coal Co.,	66,687
Cambria Steel Co.,	455,246	Individual collieries,	629,156
Washington Coal and Coke Co.,	991,463		
Oliver Steel Co.,	643,740	Total,	897,454
Individual collieries,	1,321,311		
		BEDFORD COUNTY.	
		Bedford county,	23,335
Total,	7,951,726	Total,	23,335

Recapitulation.

Fayette county production,	7,951,726
Somerset county production,	897,454
Bedford county production,	23,335
Total production,	8,872,514

Classification of Accidents, 1899.

	Fatal.	Non-fatal.
By falls of coal,		7
By falls of slate,	20	20
By falls of rock,		
By cars,	4	23
By explosion of gas,	24	5
By electricity,		
By premature blasts,	1	5
By powder and dynamite explosions,		
By mining machinery,		3
By machinery general,		3
By mules,		2
By falling down shaft,	1	1
By miscellaneous causes,		1
Total,	50	70

TABLE—Showing Production of Coal, number of Persons Employed by each Company and average number of Tons Produced per Employe, number of Fatal Accidents and Tons of Coal Produced per Life Lost, number of Fatal and Non-fatal Accidents and number of Tons of Coal Produced per Accident in the Fifth Bituminous District, 1899.

Name of Operator	Number of persons employed.	Number of tons of coal produced.	Number of fatal accidents.	Number of tons produced per life lost.	Number of fatal and non-fatal accidents.	Number of tons produced per accident.
H. C. Frick Coke Co.,	3,562	3,036,282	9	337,365	27	112,455
McClure Coke Co.,	567	558,564	2	279,282	6	53,094
Pittsburgh Coal Co.,	364	445,404	7	63,486	17	26,200
W. J. Rainey,	508	199,713	2	249,856	7	71,387
Cambria Steel Co.,	656	455,246	1	455,246	4	113,811
Washington Coal and Coke Co.,	785	591,103	.....	.....	.....	.....
Oliver & Snyder Steel Co.,	659	643,740	4	160,932	6	107,290
Merchant Coal Co.,	199	139,175	.....	.....	6	23,196
Standard Coal Co.,	32	7,295	.....	.....	.....	.....
Althouse Coal Co.,	86	15,140	.....	.....	.....	.....
Fairview Coal Co.,	88	66,687	.....	.....	.....	.....
Acme Coal Co.,	27	4,233	.....	.....	.....	.....
Standard Coke Co.,	83	19,237	.....	.....	.....	.....
Perry Coal Co.,	73	107,776	1	107,776	2	53,888
Connellsville Coke Co.,	86	42,134	.....	.....	1	42,134
The Atlas Coke Co.,	100	81,947	.....	.....	.....	.....
E. A. Humphries & Co.,	65	36,832	.....	.....	.....	.....
Cheat Haven Coal Co.,	26	13,407	1	13,407	1	13,407
James Cochran Sons & Co.,	93	81,157	.....	.....	.....	.....
Dunbar Furnace Co.,	129	157,144	.....	.....	1	157,144
Juniata Coke Co.,	241	182,310	2	91,155	4	45,577
Isaac Taylor & Co.,	68	49,555	.....	.....	.....	.....
Brown & Cochran,	318	285,900	1	285,900	7	40,843
Percy Mining Co.,	46	29,091	.....	.....	.....	.....
Rocks Coal Co.,	23	24,844	.....	.....	.....	.....
Stewart Iron Co., Ltd.,	145	143,048	.....	.....	2	71,524
Edward Snider,	11	6,520	.....	.....	.....	.....
Stockdale Coal Co.,	82	44,675	19	2,351	23	1,942
Stoner Coal Co.,	26	16,026	.....	.....	.....	.....
Casselman Coal Co.,	34	34,600	.....	.....	.....	.....
Chapman Coal Mining Co.,	68	62,482	.....	.....	1	34,482
Cumberland and Summit Coal & Coke Co.,	157	132,270	.....	.....	.....	.....
W. A. Merril,	34	9,615	.....	.....	.....	.....
Connellsville and Ursina Coal & Coke Co.,	2	1,414	.....	.....	.....	.....
W. A. Garman,	11	4,528	.....	.....	.....	.....
Grassy Run Coal Co.,	57	43,214	.....	.....	.....	.....
Continental Coal Co.,	78	7,450	.....	.....	.....	.....
Duncombe & Adams,	80	54,441	.....	.....	.....	.....
Pinehill Coal Co.,	45	3,200	1	3,200	1	3,200
Somerset Stone Co.,	2	2,000	.....	.....	.....	.....
W. E. Niver & Co.,	112	84,500	.....	.....	.....	.....
Statler Coal Co.,	11	200	.....	.....	.....	.....
Cumberland and Elk Lick Coal Co.,	182	181,498	.....	.....	.....	.....
Ben Thomas & Son,	32	31,738	.....	.....	.....	.....
Savage Fire Brick Co.,	24	23,335	.....	.....	.....	.....
Total,	10,448	8,772,534	50	*175,450	120	*73,104

*Average.

Occupations of Persons Killed or Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Stable boss,	1	1	2
Miners,	41	41	82
Slope cleaner,	1	.....	1
Mine foreman,	1	.....	1
Drivers,	1	16	17
Track layers,	1	2	3
Boss driver,	1	.....	1
Door boy,	1	.....	1
Cagers,	2	.....	2
Mining machine runner,	.....	5	5
Track boss,	.....	1	1
Mine laborer,	.....	1	1
Shot firer,	.....	1	1
Electric Motor runner,	.....	1	1
Rope rider,	.....	1	1
Total,	50	70	120

TABLE F—Nationality of Persons Killed or Injured.

	Americans.	Scotch.	Hungarians	Slavs.	Irish.	Americans, colored.	Germans.	Swiss.	English.	Italians.	Poles.	Bohemians.	Austrians.	Unknown.	Total.
Killed,	9	....	7	21	.....	1	1	.....	1	1	5	1	2	1	50
Injured,	23	2	8	15	6	2	5	1	3	2	3	.....	.....	.....	70
Totals,	32	2	15	36	6	3	6	1	4	3	8	1	2	1	120

TABLE—Giving names of mines, names of operators, names of mine foremen in charge, haulage system, method of ventilation, drift, slope or shaft, pick or machine mines in the Fifth Bituminous District, 1899.

Name of Mine.	Name of Operator.	County.	System of Haulage.
Kyle,	H. C. Frick Coke Co.,	Fayette,	Gravity, rope and mules.
Leith,	H. C. Frick Coke Co.,	Fayette,	Tail rope and mules.
Leisenring No. 1,	H. C. Frick Coke Co.,	Fayette,	Compressed air, locomotive and mules.
Leisenring No. 2,	H. C. Frick Coke Co.,	Fayette,	Tail rope and mules.
Leisenring No. 3,	H. C. Frick Coke Co.,	Fayette,	Mules.
Oliphant,	H. C. Frick Coke Co.,	Fayette,	Gravity, rope and mules.
Redstone,	H. C. Frick Coke Co.,	Fayette,	Gravity, rope and mules.
Trotter,	H. C. Frick Coke Co.,	Fayette,	Tail rope and mules.
Wynn,	H. C. Frick Coke Co.,	Fayette,	Gravity, rope and mules.
Youngstown,	H. C. Frick Coke Co.,	Fayette,	Gravity, rope and mules.
Lemont No. 1,	McClure Coke Co.,	Fayette,	Gravity, rope and mules.
Lemont No. 2,	McClure Coke Co.,	Fayette,	Gravity, rope and mules.
Smock,	Pittsburgh Coal Co.,	Fayette,	Tail rope and mules
Hurst,	Pittsburgh Coal Co.,	Fayette,	Gravity, rope and mules.
Eleanora,	Pittsburgh Coal Co.,	Fayette,	Mules.
Grindstone,	Pittsburgh Coal Co.,	Fayette,	Mules.
Hanna,	Pittsburgh Coal Co.,	Fayette,	Mules.
Paul,	Pittsburgh Coal Co.,	Fayette,	Gravity, rope and mules.
Elm Grove,	Pittsburgh Coal Co.,	Fayette,	Gravity, rope and mules.
Mt. Braddock,	Pittsburgh Coal Co.,	Fayette,	Gravity, rope and mules.
Revere,	Pittsburgh Coal Co.,	Fayette,	Gravity, rope and mules.
Morrell,	Cambria Steel Co.,	Fayette,	Gravity, rope and mules.
Mahoning-Atlas,	Cambria Steel Co.,	Fayette,	Gravity, rope and mules.
Wheeler,	Cambria Steel Co.,	Fayette,	Gravity, rope and mules.
Continental No. 1,*	Continental Coke Co.,	Fayette.	
Continental No. 2,*	Continental Coke Co.,	Fayette.	
Continental No. 3,*	Continental Coke Co.,	Fayette.	
Fosdale,*	Eureka Fuel Co.,	Fayette.	
Lecivenne,*	Eureka Fuel Co.,	Fayette.	
Burlington,	Eureka Fuel Co.,	Fayette.	
Edenborn,†	American Coke Co.,	Fayette.	
Lambert,†	American Coke Co.,	Fayette.	
Gates,†	American Coke Co.,	Fayette.	
Washington No. 1,	Washington Coal and Coke Co.,	Fayette,	Gravity, rope and mules.
Washington No. 2,	Washington Coal and Coke Co.,	Fayette,	Gravity, rope and mules.
Oliver No. 1,	Oliver & Snyder Steel Co.,	Fayette,	Endless rope and mules.
Oliver No. 2,	Oliver & Snyder Steel Co.,	Fayette,	Endless rope and mules.
Acme,	Acme Coke Co.,	Fayette,	Mules.
Bourne,	Standard Coke Co.,	Fayette,	Mules.
Bessie,	Perry Coal Co.,	Fayette,	Gravity, rope and mules.
Connellsville No. 1,	Connellsville Coke Co.,	Fayette,	Mules.
Crossland,	The Atlas Coke Co.,	Fayette,	Gravity, rope and mules.
Chester	E. A. Humphries & Co.,	Fayette,	Gravity, rope and mules.

TABLE—Continued.

Name of Mine.	Name of Operator.	County.	System of Haulage.
Cheat Haven.	Cheat Haven Coal Co.,	Fayette,	Mules.
Clarissa.	James Cochran Sons & Co.,	Fayette,	Gravity plane and mules.
Ferguson.	Dunbar Furnace Co.,	Fayette,	Gravity, rope and mules
Juniata.	Juniata Coke Co.,	Fayette,	Gravity plane and mules.
Lincoln	A. L. Keister & Co.,	Fayette,	Mules.
Mt. Hope.	Isaac Taylor,	Fayette,	Mules.
Nellie.	Brown & Cochran,	Fayette,	Mules.
Percy.	Percy Mining Co.,	Fayette,	Gravity, rope and mules.
Rocks.	Rocks Coal Co.,	Fayette,	Mules.
Stewart	Stewart Iron Co., Ltd.,	Fayette,	Gravity, rope and mules.
Snider	Edward Snider,	Fayette,	Mules.
Summer.	Stockdale Coal Co.,	Fayette,	Mules.
Smithfield.	J. D. Boyd,	Fayette,	Mules.
Merchants No. 1.	Merchants' Coal Co.,	Somerset,	Electric motor and mules.
Merchants No. 2.	Merchants' Coal Co.,	Somerset,	Electric motor and mules.
Merchants No. 3.	Merchants' Coal Co.,	Somerset,	Mules.
Standard No. 1.	W. J. Rainey,	Somerset,	Mules.
Standard No. 2.	W. J. Rainey,	Somerset,	Mules.
Penfeigh.	W. D. Althouse & Co.,	Somerset,	Gravity, rope and mules.
Allegheny.	W. D. Althouse & Co.,	Somerset,	Gravity, rope and mules.
Fairview.	Fairview Coal Co.,	Somerset,	Mules.
Fub Mill Run.	Fairview Coal Co.,	Somerset,	Mules.
Berlin.	Stoner Coal Co.,	Somerset,	Mules.
Casselman.	Casselman Coal Co.,	Somerset,	Gravity, rope and mules.
Chapman.	Chapman Coal Mining Co.,	Somerset,	Mules.
Cumberland.	Cumberland and Summit Coal and Coke Co.,	Somerset,	Mules.
Enterprise.	W. A. Merrill,	Somerset,	Mules.
Edna.	Connellsville and Ursina Coal and Coke Co.,	Somerset,	Mules.
Garman.	W. A. Garman,	Somerset,	Mules.
Grassy Run.	Grassy Run Coal Co.,	Somerset,	Mules.
Glen McLaran.	The Continental Coal Co.,	Somerset,	Tail rope and mules.
Hamilton.	Duncombe & Adams,	Somerset,	Mules.
Jeffie.	Pine Hill Coal Co.,	Somerset,	Mules.
Millford.	Somerset Stone Co.,	Somerset,	Mules.
Pen Mar.	W. K. Niver & Co.,	Somerset,	Tail rope and mules.
Statler.	Statler Coal Co.,	Somerset,	Gravity plane and mules.
Shaws.	Cumberland and Elk Lick Coal Co.,	Somerset,	Electric motor and mules.
Thomas.	Ben Thomas & Son.	Somerset,	Mules.
Gooseberry.	Savage Fire Brick Co.,	Bedford,	Mules.

*In course of construction.

**Slopes are all being sunk.

TABLE—Continued.

Name of Mine	Method of Ventilation	Kind of Opening.	Pick or Machine Mine.	Type of Machine
Kyle	Fan.	Drift and slope.	Pick	
Leith	Fan.	Shaft.	Pick.	
Leisenring No. 1.	Fan.	Shaft.	Pick.	
Leisenring No. 2.	Fan.	Shaft.	Pick.	
Leisenring No. 3	Fan.	Shaft.	Pick	
Oliphant	Fan.	Slope.	Pick.	
Redstone.	Fan.	Slope.	Pick.	
Trotter.	Fan.	Shaft.	Pick.	
Wynn.	Fan.	Slope.	Pick.	
Youngstown.	Fan.	Slope.	Pick.	
Leisenring No. 1	Fan.	Slope.	Pick.	
Leisenring No. 2.	Fan.	Slope.	Pick.	
Smock.	Fan.	Drift.	Pick.	
Hurst.	Fan.	Slope.	Machine and pick.	Compressed air.
Lemont.	Furnace.	Drift.	Pick.	
Grindstone	Fan.	Shaft.	Machine and pick.	Electric.
Hanna	Furnace.	Drift.	Pick.	
Paul.	Fan.	Slope.	Pick.	
Elm Grove	Fan.	Slope.	Pick.	
Mt Braddock	Fan.	Slope.	Pick	
Revere.	Fan.	Slope.	Pick.	
Morrell	Fan.	Slope.	Pick.	
Mahoning Ath's.	Fan.	Slope.	Pick.	
Wheeler	Fan.	Slope.	Pick.	
Continental No. 1.*		Shaft		
Continental No. 2.*		Shaft.		
Continental No. 3.*		Slope		
Footprint*		Drift.	Machine and pick.	Electric.
Lockview*		Drift.	Pick.	
Edlington		Shaft.		
Glenhaven		Shaft		
Lambert.		Shaft.		
Gates*		Shaft.		
Washington No. 1.	Fan.	Shaft.	Machine and pick.	Compressed air.
Washington No. 2.	Fan.	Slope.	Machine and pick.	Compressed air.
Oliver No. 1	Fan.	Shaft.	Pick.	
Oliver No. 2	Fan.	Shaft.	Pick.	
Acme	Furnace.	Drift.	Pick.	
Fourine	Furnace.	Drift.	Pick.	
Bessie.	Fan.	Slope.	Machine and pick.	Electric.
Connellsville No. 1.	Fan.	Drift.	Pick.	
Cressland	Fan.	Slope.	Pick.	
Chester.	Exhaust steam.	Slope.	Pick.	
Great Haven.	Furnace.	Drift.	Pick.	
Carrsa	Furnace.	Drift.	Pick	
Ferguson	Fan.	Slope.	Pick	

TABLE—Continued.

Name of Mine.	Method of Ventilation.	Kind of Opening.	Pick or Machine Mine.	Type of Machine.
Juniata,	Fan,	Shaft,	Pick.	
Lincoln,	Fan,	Slope,	Pick.	
Mt. Hope,	Natural,	Drift.	Pick.	
Nellie,	Fan,	Shaft,	Pick.	
Percy,	Fan,	Slope,	Pick.	
Rocks,	Fire basket,	Drift,	Pick.	
Stewart,	Fan,	Slope,	Pick.	
Snider,	Natural,	Drift,	Pick.	
Sumner,	Fan,	Shaft,	Pick.	
Smithfield,	Natural,	Drift,	Pick.	
Merchants No. 1,	Furnace,	Drift,	Machine,	Electric.
Merchants No. 2,	Furnace,	Drift,	Machine,	Electric.
Merchants No. 3,	Natural,	Drift,	Pick.	
Standard No. 1,	Furnace,	Drift,	Pick.	
Standard No. 2,	Furnace,	Drift,	Pick.	
Ponteigh,	Fan,	Slope,	Pick.	
Allegheny,	Exhaust steam,	Slope,	Machine,	Compressed air.
Fairview,	Furnace,	Drift,	Pick.	
Tub Mill Run,	Furnace,	Drift,	Pick.	
Berlin,	Furnace,	Drift,	Pick.	
Casselman,	Fan,	Slope,	Pick.	
Chatman,	Furnace,	Drift,	Pick.	
Cumberland,	Furnace,	Drift,	Pick.	
Enterprise,	Furnace,	Drift,	Pick.	
Edna,	Natural,	Drift,	Pick.	
Carman,	Natural,	Drift,	Pick.	
Grassy Run,	Furnace,	Drift,	Pick.	
Glen McLaran,	Furnace,	Drift,	Pick.	
Hamilton,	Furnace,	Drift,	Pick.	
Lottie,	Furnace,	Drift,	Pick.	
Millford,	Natural,	Shaft,	Pick.	
Pen Mar,	Furnace,	Drift,	Machine,	Compressed air.
Statler,	Natural,	Drift,	Pick.	
Shaws,	Fan,	Drift,	Machine and pick,	Electric.
Thomas,	Furnace,	Drift,	Pick.	
Gooseberry,	Natural,	Drift,	Pick.	

*In course of construction.

Shafts are all being sunk.

Description of Mines.—Fayette County.

H. C. Frick Coke Co. Mines.—There are ten mines belonging to this company in this district, two which are classed as belonging to the McClure Coke Co., but which are controlled and managed by the Frick Company.

Kyle Mine.—Is in good condition in all respects as to healthfulness and safety. There is ample ventilation which is well conducted around the working places.

A new slope has been made which is intended to develop the workings of the Fairchance mine (abandoned) which lies adjacent to this mine. To properly operate the increased coal property, a new system of rope haulage will be installed in the near future.

More commodious bins and other outside arrangements are to be built, to meet the demands of the increased number of coke ovens which have been added by the consolidation of the two plants.

When these improvements are completed this will be a very large and well equipped mine.

Leith Mine.—Is in fairly good condition. The ventilation is not as vigorous, as it has been in the past, owing to the increased area over which it has to travel.

The fan is not adequate for the requirements of the mine, and a new Çapell fan of increased capacity is to be installed.

The output of coal is largely supplied from rib workings, which give off large volumes of explosive gas in the gob, and the necessity for increased ventilation is obvious.

At two of my visits during the year, I found the gas below the roof, showing that the current was not vigorous enough to keep the working places clear of it.

The utmost care is being exercised by the officials to secure safety, and the fact that no open light are permitted in the mine, nor blasting of any kind allowed, makes what would be otherwise dangerous conditions comparatively safe.

The workings being to the dip of the shaft mostly, the question of drainage was one which involved considerable expense, to avoid which a new sump has been made near the bottom of the dip.

Two bore holes are now being drilled, each 14 inches in diameter, one for pumping water through to the surface, the other to conduct steam from the surface to the pumps by means of a steam pipe, and also to allow the exhaust steam to escape between the casing and pipe to the surface.

Leisenring No. 1.—During the year a new system of hauling has been adopted in this mine, viz, by compressed air locomotive.

To insure success for the new system, new roads had to be made through the entire length of the main heading, as well as on the new roadway, which had to be made diagonally across the old workings.

This involved considerable expense in widening the passage ways and laying down of heavy steel rails.

New overcasts were also built, which has resulted in a better distribution of the air current.

Considerable water has drained into the mine from the adjoining Morrell and Wheeler mines, which have worked out all their dip coal and left the water behind in the abandoned workings. This water being to the rise of Leisenring mine, and separated by a boundary pillar of coal of about 50 feet thick, percolates through the pillar into the latter mine, and practically gives it all the water formerly pumped by the Wheeler and Morrell mines. A considerable portion of the dip workings of Leisenring mine has been filled up with water. The general condition of the mine as to healthfulness and safety is good.

Leisenring No. 2.—The condition of this mine is fairly good.. The air current is somewhat sluggish in some parts of the mine, and in consequence black damp, which has accumulated in the gob where the ribs have been drawn out, mixes with and vitiates the air-current in some parts of the south side of the dip workings, and also allows the fire-damp to come down in dangerous quantities on the north side from the gob.

The large extent of territory which the fan has to ventilate, makes it difficult for it to produce volume sufficient to properly ventilate the workings. A larger fan is talked about by the officials of the mine as being likely to be installed during this year, "a consumation devoutly to be wished for."

A new haulage road has been driven diagonally across the workings of the south dip, which will develop a large area of new territory, shorten and improve the haulage system, and cheapen the cost of production of coal.

The shaft timbers have been giving way during the year and several sets have been replaced by new ones. These timbers have been in use since 1883 and have served their purpose, and should be replaced by new ones to insure safety.

Leisenring No. 3.—Has not maintained its usual good reputation during this year, as several creeps have occurred in different parts of the mine. These are the result of the imperfect extraction of the pillars and ribs.

On my last visit I noticed that men were working in a number of places where dangerous conditions existed on account of the shattered condition of the roof, due to the heavy pressure of the overlying strata.

The ventilation was not as vigorous at the extreme end of workings as it should have been. In some headings I could not get enough air-current to move the anemometer.

In some portions where ribs were being worked, considerable black-damp was mixed with air current from the old gob (into which the rooms had been driven), where the ribs were being drawn.

The drainage was good. Indeed in some parts of the mine it was too good, for the dusty condition of the hauling roads should not have been allowed, as the law requires that dust shall be sprinkled with water.

Oliphant.—Is in excellent condition. The ventilation, drainage and other conditions are good. Fifty new coke ovens have been added to this plant during the year.

Redstone.—Is very extensive, and has a great area to ventilate, and in consequence the extreme portions of the mine receive a small current of air, and while within the requirements of law as regards quantity, yet the quality of the air is very much affected by the mixture of black damp.

At one of my visits I found more than three times the lawful volume of air in circulation through a portion of the mine, while at the same time it was with great difficulty that the lamp would burn, by reason of excess of black damp in the air.

The drainage and other conditions were very good.

Trotter.—At one of my visits to this mine I found explosive gas so far down below the roof where ribs were being drawn, that I considered it dangerous, and advised the mine foreman to stop such places until the gas was removed.

The practice of removing pillars on the retreating system, while it has a great many advantages in regard to the recovery of a greater percentage of coal, yet it seems to have developed the fact that by leaving gobs behind, greater volumes of gas are given off, and a greater reservoir is made in which it can accumulate, which also makes it more difficult to remove.

When a current of air is taken in at one end of a range of rib work, and conducted along the working places to the other end, it seems to carry accumulations of gas with it until, when it reaches the last few places the gas is very often found so far below the roof that it is positively dangerous for persons to work therein.

The gob being full, and no way of escape for the gas only by its being mixed with the air current as above stated, it can readily be seen that there is necessity for the utmost caution in working in proximity to such dangerous conditions, where by the mistake, carelessness, or ignorance of one person, the entire mine might be blown up and the lives of all sacrificed.

The other conditions of the mine are good. The air is well conducted and distributed. The drainage is good, and the mine is well looked after by the mine officials.

Wynn.—Is in very fair condition generally.

The Laughead mine, which adjoins this one was purchased by the H. C. Frick Co., and is now really part of the same mine, as it is ventilated by the same system, and they are connected by underground railroads, and it is under the supervision and control of one mine foreman, and is now known as part of the Wynn mine.

Youngstown.—Considerable improvements have been made on the slope at this mine. New steel rails (40 lbs. per yard) have been laid the full length. Several swamps have been leveled up to grade on the hauling roads, all of which facilitates the hauling of coal.

The general conditions of the mine are satisfactory, except that the manway continues to be a source of complaint, by reason of its muddy condition.

More money has been spent patching up this old manway from time to time than would have made a new one from beginning to end.

Lemont Nos. 1 and 2.—These mines are in good and satisfactory condition as to healthfulness and safety.

Both mines generate gas freely in portions of the gob where ribs are being worked, but as there is a good strong current of air being forced over the falls into return airways, the gas is generally found very high up on the falls and out of reach of the workmen. The drainage is good.

A new bore hole was put down at No. 2 slope, and a battery of boilers placed on the surface to furnish steam for the pumps below. The exhaust steam is carried to the surface through this borehole between the casing and steam pipe.

Pittsburg Coal Company's Mines.

The Pittsburg Coal Company, or, as it is known generally as the "Railroad Combine," purchased the following mines and now operates them: Smock, Hurst, Eleanora, Grindstone and Hanna.

Smock.—Is not well ventilated by reason of having too small a fan to produce the air-current. It is entirely inadequate to furnish sufficient air to keep the mine in a healthful condition. I had frequently called the attention of the former company to this fact, and have as repeatedly been promised that it would be attended to, but it never was until the present company took hold of the matter.

A large new Capell fan has been ordered and will be installed just as soon as it is received from the manufacturers.

Excavations are now being made for the foundations, and when this fan is completed there will be ample ventilation.

The other conditions of mine are very satisfactory.

Hurst.—Is very well ventilated and drained. The developments were never pushed enough to get any extent of rooms opened out, consequently the production was limited, and very unsatisfactory results were obtained.

When the present company took charge they restricted all the operations to the development of the headings, which they worked day and night. I have been informed by the superintendent that probably the mine will be abandoned, and coal taken out through the Smock mine which adjoins it, as better hauling facilities can be obtained, and the coal handled at the latter place more economically. In short, by consolidating the two mines the production for both will be cheapened.

Eleanor.—This mine on account of insufficient power to produce ventilation was very poorly ventilated.

A small furnace with a very shallow shaft, was not competent during the summer months to overcome natural ventilation, consequently there was no air in circulation around the workings.

As I had repeatedly called attention to this condition of affairs, and no remedy resulting, at one of my visits I ordered the mine foreman to at once withdraw the persons employed in the mine, and not to permit them to return to work again until there was a lawful volume of air kept in circulation in the working places.

This had the desired effect, for steps were at once taken to procure a fan, which was soon put in place and the mine resumed operations, when ample ventilation was afforded. The other conditions as to healthfulness and safety are good.

Grindstone.—When visited last this mine was in good condition. The ventilation was ample and well carried up to the face of the workings. The headings evolve explosive gas and are worked with locked safety lamps.

The air current is carried up to the face by means of brattice cloth from the last cut-throughs and usually the headings are kept free from standing gas. I did not detect gas in any portion of the mine on my last visit. This condition did not maintain however at all times during the year.

On July 24th an explosion took place in the mine whereby five men lost their lives and two were very severely burned.

From the testimony given at the coroner's inquest it appeared that the fire-boss found gas in room 23 on No. 10 entry. This gas reached back 108 feet from the face of room and would average one foot in depth, the width of room being 24 feet.

The fire-boss put up danger signals at the cut-throughs and at the mouth of the room, and reported gas as being found in this room in the record book, but did not make a verbal report of this fact to the mine foreman. The men who worked in room No. 22 were allowed to work with open lights, no gas having been found in room 22. One of the men who worked in room 22 for some unexplained reason went into No. 23 room, through the cut-through between 22 and 23 rooms, disregarding the danger signals placed at said cut-

through by the fire boss, and up to near the face of room 23 and ignited the gas, thereby causing an explosion by which he was killed, also four other persons, and two men were severely burned. His cap and lamp were found by me 30 feet from face of room 23, and his body was found 123 feet from the face of room. His cap and lamp were identified by the men who worked with him in room 22 who miraculously escaped.

Very little damage was done to the mine except by knocking down of the doors and stoppings in the immediate vicinity of the explosion, but unfortunately the explosion occurred at a time when a number of persons were on the entry proceeding to their work, who met the full force and some were thereby killed.

The direct cause of the explosion was that Geo. Hutnack ignited the gas in room 23. The indirect cause was allowing standing gas in room 23 by the mine foreman and fire-boss. They each knew of its presence there, and it had been reported for several days.

The gas could have been removed very easily by the erection of a check door on the entry, and carrying of some canvas up into the room, and if it had been done the lives of five men would not have been sacrified.

Hanna.—This mine was found in fairly good condition at each visit. The ventilation was good in every part except in one entry, where there were three places working ahead of the air-current, which I at once ordered to be stopped until the air was carried up to them. The drainage and other conditions were good.

W. J. Rainey's Mines.

Paul.—Is in good condition in all parts, the ventilation is ample and well distributed. The drainage is excellent except at a few places on the manway where water falls from the roof which keeps it muddy.

Elm Grove.—Was found in excellent condition at each visit. The ventilation, drainage, and other conditions are all that can be desired. A new manway has been made beside of the slope which has improved the volume of air, as well as shortened the distance to travel of persons to and from their work.

Mt. Braddock.—The general condition of this mine is good except that the air-current is not carried up to the faces of the working places on the right side of the slope.

The useful effect of the fan is hindered by reason of the fact that a great portion of the air passing through it never travels around the mine, but is taken in through crop-falls and from old workings of the adjoining Percy mine.

There are so many old workings, and the pillars are so crushed and shattered that it is impossible to prevent leakage of air.

I have suggested to the management that if the fan were changed to the other side of the slope, and made to force, instead of exhaust the air as at present, that it would give very much better results.

They have consented to do this and have made arrangements to erect a large Capell fan, and to build a line of masonry stoppings between airway and slope. A greater volume of air was imperatively required, as the volume now circulating would have been utterly inadequate to cope with the gas, which will be given off on the right side of slope, whenever ribs are drawn. I had warned the management of what would be likely to occur and notified them that if the air-current should not prove sufficient in the event of gas being given off that I would stop that portion of the mine until air in such volumes as would keep the mine safe should be supplied.

Revere.—Is a new slope mine which is being opened out and is not yet making coke. Three openings parallel with each other are being driven to the dip of the coal, two for traveling ways, and one for hauling coal. A large plant is being erected with all the most modern machinery and equipments.

Six hundred coke ovens are in course of construction, with all necessary railroads and side tracks.

Cambria Steel Co.'s Mines.

Morrell.—The workings in this mine are now confined to the extraction of ribs and pillars in the upper part of the slope. The mine will soon be exhausted, as only a little coal is now left along the outcrop and on the main entries and slope pillars.

The ventilation is good, as is also the drainage, the water all finding its way below the working portion of the mine into the excavated part, which it fills up until it percolates through the boundary pillar into No. 3 Leisenring.

Wheeler.—The same conditions exist in this mine as in Morrell (which adjoins it). The water is drained in the same manner and into the same mine. Workings are now confined to pillar and rib work. The ventilation and general conditions as to healthfulness and safety are good.

Mahoning Atlas.—On May 15, I was notified by the officials of this mine that there was danger of the Hill Farm mine fire spreading over into this mine. I at once went to the mine and found upon investigation that the wooden stoppings were getting very hot, whereupon I ordered all the men out of the mine at once.

Messengers were sent into the mine to hurry them out and before the last of them reached the outside, the fire had burst through the stoppings, despite heroic efforts to keep it back by means of a bucket brigade, which kept throwing water on them, there being no other means with which to fight it at this time.

In order to have a supply of water to successfully cope with the fire as speedily as possible, I telephoned the fire companies at Uniontown and Connellsville to send down their hose pipe at once.

This request was complied with, and in about four hours from the breaking out of the fire two streams of water were playing on it. In the meantime after the men were out of the mine, the fire was being vigorously fought by the bucket brigade and new stoppings were being built behind the men fighting the fire, which were saturated with water and which kept the fire somewhat in check, as they would fight and fall back slowly behind each new stopping. But despite the most strenuous exertions, the fire finally drove them back into the manway and it got across over to the slope.

To prevent its rapid spread down into the workings of the mine, all the openings were made air-tight, except the manway which was the inlet. The speed of the fan was increased so that the water gauge was increased from 9 inches to 2.9 inches.

The purpose of this was to compress the air in the mine, and to fill it with the products of the combustion of the fire, and thereby prevent the fire spreading into the mine, and at the same time dilute and render non-explosive the gas which was known to exist in the gob and abandoned workings, as well as to supply air to the men who were fighting the fire.

That this method was effective was subsequently proven, when it was found that the fire had never reached more than 100 feet down the manway, or slope, beyond where it came across when first discovered. The hose pipe having been completed and a plentiful supply of water available, efforts were made to cut through the fire which was now raging on each side of the manway.

The nozzles were directed on the flames, which kept them in check while workmen cleaned up the mouths of the rooms (from which the fire had come over from the Hill Farm mine) and built masonry stoppings in them to keep the fire back.

That it required nerve to accomplish this will be understood when I state, that while the walls were being built, the flames were in contact with the brick-work, and when a brick had to be placed on the walls the flames had to be driven back by the force of the water from the nozzles under pressure of 70 pounds per square inch.

The workmen were lying down under a sheet of flame, and being subjected to great heat, were only protected by the water from the nozzles of the water line. Yet despite these conditions, the work was finally completed and each of the room openings shut off air tight. The same experience had to be gone through on the other side of manway, and next to the slope, until a passageway was cut through the fire and it was headed off. When this had been accomplished, attention was turned to the slope on which the fire was burning.

In order to subdue the fire on slope, it was thought best to commence at the lower or inside end, and follow the fire up with the water line as it was extinguished. To do this, the slope and manway had to be closed up below the fire, by brick stoppings, to cut the air off from the lower part of the mine, and a small opening was made at the slope mouth, to allow the smoke and noxious fumes to be carried away from the men. Some progress was made in this direction, but it was found that the fire had caused the roof of the slope to fall, so that it completely shut off the air, consequently the men could not work on account of the smoke and fire fumes.

The mouth of the slope was closed again, and the next breakthrough above the lower one was opened, and it was fought between there two cut-throughs until the fire was under control at that point. The slope was cleaned up, and the openings on the other side of slope were closed up the same as had been done on the manway.

Then the next cut-through above was opened, and an effort made to control the fire from between the cut-throughs as before, but this could not be done on account of the slope having become air tight, and the smoke and fumes from the fire not being carried off, and also from the fact that as the water cooled off the top of the fall, and there just was sufficient air pressed through the burning fall from the upper cut-through to make imperfect combustion and produce carbonic oxide gas, which would explode on coming through towards the lower cut-through, and thereby endanger the lives of persons employed; one such explosion burned three of the men about the face and hands slightly.

It was therefore found necessary to try some other method. The slope was again closed below the fall and opened out at the mouth, and the upper cut-through between slope and manway next to mouth of slope was opened, when it was found that the fire had been extinguished at that point, from the products of combustion of the fire below. Then the next cut-through below was opened and found to have a small fire, which was soon under control. From this point, a canvas brattice was carried down along the side of the slope, behind which, the men played water on the fire until the next cut-through was reached, and so on until the point was reached in the slope where it was closed.

The slope was then cleaned up from the upper end and the material hauled outside. Then connection was made with the lower part of the slope, and the mouths of all openings on the other side of slope were closed in the same manner as had been done on the manway.

When this had been done, the stoppings across manway and slope were taken down, and the outlets were opened up and the air current allowed to resume its normal course. When after investigation of all parts of the mine had been made, operations were resumed, after

all the necessary repairs had been made and the water pumped out of the working places.

Very great credit is due the men who were engaged in fighting this fire. It took courage to face the dangers to which they were exposed, but they never flinched from their posts.

We often hear the praise of our soldiers sung, who do daring deeds on the battlefield, but here were men who faced danger more immediate than ever confronted soldiers; yet with a simple faith in their leaders, went with a sublime courage into the very jaws of death, and succeeded in conquering one of the most difficult mine fires that ever occurred in the Bituminous mining region.

The amount of work done during the time the fire was in progress was wonderful. Over 100 brick stoppings were built, pipe lines were laid for more than a mile and a half, pumps and boilers were erected within a few days, all of which showed in a marked degree the executive ability of the officials in charge.

The mine is now in a safer condition than at any period since the Hill Farm mine fire occurred, as a line of masonry stoppings, the entire length of manway, has been erected.

A water line has been laid along its entire length. Three plug holes are provided in each of the stoppings, through which water can be forced behind them if necessary to extinguish any fire that might show itself, by means of hose connected to the water line.

On December 15 I was notified by the superintendent of this mine that a small mine near the Mahoning mine was being opened up again after having been closed on account of the mine fire in the latter mine, and that there was danger of causing an outbreak of said fire again.

I at once went to investigate and found that there was danger. I asked the operator of the mine to suspend operations, but he said that he did not employ enough men to bring his mine under the provisions of the law, and that I had no authority to act in the matter; whereupon I notified Messrs. Louttit and Ross, Inspectors of the First and Second districts respectively, to come at once and make an examination of the mine with me to determine what action should be taken relative thereto. We made an examination the next day, and wrote the following notice to be served upon the operator of said mine:

Uniontown, Pa., Dec. 15, 1899.

Mr. B. Ring, Mine Operator, Dunbar, Pa.:

Sir: Whereas there is a mine fire in a portion of the Mahoning mine operated by the Cambria Steel Company, which fire is adjacent to the working of the mine operated by you, and whereas the workings of said mine are not correctly shown on maps of said mine, it is therefore impossible to locate correctly said workings; and whereas, there is immediate danger of openings being made into abandoned workings

of said Mahoning mine and thereby disturbing the ventilation of said Mahoning mine to such an extent as would cause a volume of air to circulate through said abandoned workings, and thereby jeopardize the lives of the persons employed in said Mahoning mine.

Upon being apprised of said danger, we the undersigned Mine Inspectors did upon this date visit your mine, and after careful examination thereof, are agreed in the opinion that dangerous conditions exist as specified above. We therefore, in accordance with Article XI, Section 1 of the act of Assembly approved May 15, 1893, hereby notify you to immediately cease operations in the mine now operated by you.

Failure on your part to comply with this notice, will subject you to prosecution under Article XXI, Section 1 of the act of Assembly relating to bituminous coal mines, and make it imperative on us to apply to the judge of the court of common pleas for an injunction to restrain you from operating your mine as provided for in Article XI, Section 1 of the above named act.

Yours truly,

CHAS. CONNOR,
Inspector of 5th Dist.
C. B. ROSS,
Inspector of 2d Dist.
HENRY LOUTITT,
Inspector of 1st Dist.

After this notice had been written out and was about to be served, we received notice that the Cambria Steel Company had made arrangements to purchase the mine operated by Mr. Ring, which therefore made it unnecessary to take further action as the mine was closed up by the owners of the Mahoning mine, which removed the danger complained of.

Continental Coal Company's Mines.

Continental Nos. 1, 2 and 3.—Are just being opened out. The two former are shafts, the latter a slope.

No. 1 shaft is now down over two hundred feet, but No. 2 is just started. The slope is being opened out by three parallel openings. At each of the plants, 400 ovens will be built.

The improvements and equipments will all be of the best character with reference to strength and efficiency.

Eureka Fuel Company's Mines.

Leckrone.—Is a drift opening and the entries are now driven in for a considerable distance. An electric plant has been installed to

operate mining machines, and electric motors to haul the coal. 400 coke ovens are being built, also a large number of workmen's houses. A large Capell fan will also be installed.

Footdale.—Is a drift mine. Two openings will be made, one on each side of the valley with the coke plant between them, which will be really two separate mines.

The improvements are to be of the most substantial character. 400 coke ovens will also be built at this plant.

Buffington.—Will be a shaft opening. The shaft is now being sunk and will be equipped with all the modern appliances.

Houses, and 400 coke ovens are also being built. All of these mines will ship over two lines of railroad, viz: The B. & O. and P. R. R., which are now being built, the former connecting at Smithfield and the latter at Uniontown.

American Coke Company's Mines.

Edenborn, Lambert, Gates.—These are all shafts, and are now being sunk. The coke ovens and other improvements are now in course of construction, and will all be of the most improved types.

Washington Coal and Coke Company's Mines.

Washington Nos. 1 and 2.—These mines have run full all year and made a remarkable record, having a combined production of 991,463 tons of coal, which was accomplished without having had a single accident. This in itself speaks volumes for the carefulness and efficiency of the officials in charge of the mines.

No. 1 mine produced 747,071 tons and worked 308 days, which was an average daily production of 2,425¼ tons, or about 4½ tons per minute for 9 hours hoisting per day.

The condition of the mines is excellent in every particular. Large volumes of air are circulated, each flat having a separate split. A large 16 foot diameter, 8 foot face, Capell fan, which is capable of producing 500,000 cubic feet of air, has been erected at No. 2 mine, which ventilates all of that mine and a portion of No. 1 mine.

Everything that tends to the health and safety of the persons employed in the mines is done, without regard to cost, yet there is no mine in the region that produces coal cheaper.

I regard this as the best ventilated, best handled mine in my district. Indeed I might challenge the State to equal it in regard to safety and general results.

Oliver and Snyder Steel Company's Mines.

Oliver Nos. 1 and 2.—Maintain their usual high standing with reference to the distribution of the air currents and the general healthfulness.

During the year the endless rope system of haulage has been extended 4,000 feet in No. 2 mine. This brings the cars up to the back end of the workings which have reached the boundary lines, and are now working on the retreating system.

With this system there has come a very grave condition which effects the safety of the persons employed in the mine, viz: That very large gobs are left behind where the pillars are being extracted, which make space for very large accumulations of gas, and as there is no possible way to pass a current of air over these gob falls, the air merely circulating along the edges next to where the men are at work drawing out the pillars, it is obvious that at the far end of a section of work, the gas must come down and mix with the air current to such an extent as to make it dangerous, where large feeders of gas are being given off in the gob.

This was the case at these mines, and to remedy this, a bore hole 6 inches in diameter was drilled over the gob falls. The result was very satisfactory, in the portions of the mine where it was dangerous to work the ribs on account of the presence of gas, and which work had to be stopped on that account.

When the bore hole was put down it drained the gob so completely of gas that it has not been encountered there since.

This seemed to be a practical solution of the difficulty in this particular instance. The extent of territory of gob fall drained, is something more than 12 acres. It is cited here for the benefit of other mines where similar conditions exist.

A new ventilating fan has been erected to produce a greater volume of air to clear this portion of the mine from the gas given off in the gob workings; but without result, except that it kept the gas back under a greater pressure in the gob, and made it more dangerous in the last places visited by the air current, but when the bore hole went down it helped to force the gas up through it, which was due to the increase of pressure of the air. A new pump room has been built of masonry in the mine, and a large pump has been installed, which has ample capacity to handle the water in the two mines.

Acme.—This is a new drift mine opened out during the year. 32 coke ovens were built and operated for the last three months of the year. 18 more are now under construction, which will make a 50-oven plant. The ventilation is produced by a small furnace, and it is fairly well distributed to the face of the workings and in lawful volume. The drainage is good, as is also the general condition of the mine.

Bourne.—This is also a new drift mine opened out during the year. Eighty coke ovens have been built and were operated for the last fourth months of the year.

For some time the ventilation was not sufficient, there having been nothing but the natural current, which gave very unsatisfactory re-

sults. I insisted that some artificial means of producing ventilation should be furnished, when a temporary air-shaft was sunk and a small furnace built which gave very fair results.

A heading is being driven through into a ravine, where water can be obtained for boiler purposes, when a fan will be erected and permanent means of ventilation secured.

The general condition of the mine is very satisfactory, and when the improvements are completed, will no doubt make it very much more so.

Bessie.—This mine is now in very good condition in all respects. The ventilation, drainage and safety are very well looked after. During the year a new electric plant was installed for the purpose of supplying power to operate mining machines, which has given very excellent results in that it has increased and cheapened the production. New haulage engines have also been erected, and other improvements made in handling coal, both inside and outside, which makes this a very well equipped mine.

Connellsville No. 1.—Quite a number of improvements have been made at this plant during the year. There have been 40 new coke ovens added which now make a plant of 80.

A new opening has been made into another hill, and one mile of tram-road has also been built to convey coal from this new opening around the hill by a locomotive to a new coal bin which has been erected. A Brazil fan has been put up at the new mine which gives excellent results, the air being conducted around the workings in ample volume.

The drainage and other conditions are good.

Crossland.—Is quite up to its former high standard of excellence in every respect. Ventilation is ample and well distributed, drainage good, and everything was found in a highly satisfactory condition at each visit.

Chester.—At each visit this mine was found in a very satisfactory condition. The ventilation, drainage, and other conditions were good.

Cheat Haven.—Sometimes this mine employes a sufficient number of persons to bring it under the provisions of the law, but for long periods it is not under the law. Upon the whole it is in a satisfactory condition. A new furnace has been built which gives a definite direction to the air current and of sufficient volume to bring it up to the standard required to law.

Clarissa.—The natural advantages which this mine possesses renders it easy to keep it in good condition both as to ventilation and drainage. These advantages are utilized to the utmost, with the result that the mine at each visit was found in most excellent condition.

Ferguson.—This mine was found in very satisfactory condition at each visit, both as to ventilation and drainage.

The portion of the mine which is on fire (which is shut off from the balance of the mine by masonry stoppings) has not given any evidence of the presence of fire but on the contrary the stoppings which were formerly very hot are now very much reduced in temperature, thereby showing that the fire is not burning so fiercely as formerly.

A new tipple has been built and also a new railroad extended to the mine connecting with the Dunbar Furnace Co's road at Hill Farm. The coal is carried over this railroad to the ovens at Hill Farm, also to the by-product ovens at Dunbar Furnace and manufactured into coke at each place for use in the company's furnaces.

Juniata.—Everything in this mine was found in satisfactory condition at each visit.

Lincoln.—Is a new slope mine which is being opened out. Considerable coal has been taken out and stocked on the ground until a railroad is built to the mines to allow of its shipment.

A large number of coke ovens are also being built. The slack coal will be made into coke, and the lump coal shipped to market.

When the improvements are all completed this will be a well equipped mine.

Mt. Hope.—An additional opening has been made at this mine into another part of the property and 32 new coke ovens have been added to the plant. At each visit, the mine was found in very satisfactory condition.

Nellie.—During two of my visits to this mine I found that a squeeze had occurred in a portion of the mine which very much interfered with the drainage of that part of the mine.

I found the roads over-run with water and no ditches, which made it very difficult for persons to travel. The ventilation was also defective in some parts of the mine for the reason that the squeeze had destroyed the stoppings and interfered with the air current. However this condition is likely to be soon overcome as it is being left behind and will soon be gotten rid of. The other parts of the mine were satisfactory as to ventilation and drainage.

Percy.—Is in good healthful condition. The ventilation was ample and the drainage good.

Rocks.—At every visit to this mine I found it in a very favorable condition.

Stewart.—Is very well looked after in every particular, with the result that the mine is in good condition, despite the fact that adverse conditions prevail as to the character of the roof in a portion of the mine which necessitates the extensive use of timbers. The ventilation and drainage are good.

Snider.—At no time during the year did this mine employ a sufficient number of persons to bring it under the requirements of the law. At each visit I found it in a satisfactory condition.

Sumner.—Is a shaft mine which was sunk about the beginning of the year, and commenced to produce coal about the latter part of February, 1900. On my first visit, I found that the coal seam was giving off a considerable quantity of explosive gas.

No second opening having yet been made, the shaft was divided into two compartments, one for hoisting coal, the other for ventilation. From the air compartment the air current was conducted by means of canvas brattice along one side of each entry leading from the shaft. The air was forced into the mine by means of a small fan, but owing to the leakage through the canvas, there was not sufficient volume carried up to the face of headings to dilute and carry off the explosive gas generated from the coal seam, hence there was considerable gas at face of headings where men were working with locked safety lamps. Believing that there was danger by reason of the existence of such gas in the working places, I at once notified the mine foreman that no person would be permitted to work in these places, until there was a greater current of air forced into the mine to remove or render the gas harmless.

A larger fan was procured as soon as possible and put in place, and for the canvass, brattice boards were substituted when a much larger volume of air was put into circulation, and the gas was removed from the face of headings as fast as it was given off.

The headings were driven in this manner until connection was made by the various headings intersecting each other as they were driven around the shaft. After the shaft pillars were driven around, and connection made with the air compartment by an air course, the volume of air has always been sufficient for the requirements of the mine.

On my next visit I found that there were more than 20 persons working in the mine at one time, whereupon I notified the management to withdraw the extra men and comply with the law, and make a second opening as soon as possible. Operations were at once started to sink another shaft, and were prosecuted with the utmost dispatch until it was finished.

This shaft was furnished with an iron stairway, as well as with hoisting arrangements to be used as an escapeway. When this second shaft went through, the volume of air was still increased and an ample supply of air was carried around the workings.

The developments were pushed very rapidly until about 80 men were employed in the mine. The main headings were still generating gas, and canvas brattice had to be used between cut-throughs to keep them clear. The other places did not generate gas except where a clay-vein or fault was crossed, when it would be generated very freely.

Where one of these clay-veins was struck in room No. 2 on No. 3 butt heading, north side of shaft, a considerable volume of gas must

have suddenly accumulated on the morning of December 23d, which not only filled up room 2, but must have passed through the break-throughs into room 3 and filled it up also; for when Andy Yamimiski, the man who worked in room No. 3, entered his room on that morning, he ignited the gas, when an explosion followed that, for violence and destructiveness, has never been equaled in the Bituminous regions. Nineteen persons were killed, and four seriously injured. The force of the explosion was so great that every door and stopping in the mine were blown out and smashed into kindling wood. The ventilation was completely destroyed and the two shafts were blocked up by the explosion, the air shaft being wrecked completely by the brick wall, with which it was lined, being torn out, and falling and filling up the shaft bottom, so that only a very small hole could be made afterwards to gain an entrance to the mine.

The hoisting shaft was so completely blocked up by the timbers which fell down the shaft, together with the cage and eighteen loaded mine cars, which were all blown into the bottom of the shaft, that an entrance could not be effected to attempt a rescue by this opening. From this cause and also by reason of its becoming an upcast and carrying the deadly after-damp from the mine, it was impossible to live in it.

An attempt was made to enter by this shaft, but was abandoned for the above reason. Efforts were then directed to opening up the air shaft. Temporary hoisting apparatus was erected and Mr. Jones, the mine foreman, was lowered into the shaft and dug his way down through the debris until he was able to get a small opening made through which he squeezed himself into the mine, where he found eleven persons alive congregated near the bottom of the shaft, the only place where the atmosphere was fit to breathe.

He made an attempt to get these persons up through the small hole which he had made, but found it impossible. Those who were not injured, then assisted him in removing the debris from the bottom of the shaft to enlarge the opening.

Help was also obtained from the outside by persons descending the shaft and working from above, but it was very slow work, as on account of the extreme cold weather, and the water falling from the sides of the shaft, everything was frozen so hard that it made it difficult to make very rapid progress, and it was impossible for any person to work (except for very short periods of time) in the shaft, exposed to the falling water which froze as soon as it fell on them.

While efforts were being made to gain an entrance, blankets and stimulants were sent into the mine to revive and keep warm the injured who were lying near the bottom. After persistent and heroic efforts the opening was made sufficiently large to permit the exit of the persons imprisoned below.

The injured were the first to be taken to the surface, when they were put under the care of doctors, who were in waiting. One boy who was severely burned died on reaching home. The other four injured were either sent home or to the hospital, and all recovered. The six others who escaped were uninjured, except that they felt for a few days the effects of the deadly after-damp, through which they had to pass.

While work was being prosecuted at the air shaft to make an escape way for the imprisoned persons, Mr. Jones had been reinforced by Messrs. Radcliffe, Blower and others, who gave what succor they could to the injured, and then proceeded to attempt an entry into the workings of the mine to ascertain if there were any others who might be alive, or to find the bodies of those who were killed.

They found it impossible, however, to proceed for any great distance on account of the after-damp, as the only places that could be reached were the passages connecting the two shafts. Being satisfied that no other persons could be alive in the mine, all efforts were concentrated on getting the injured out. By this time Inspectors Loutitt and Blick had arrived on the scene, who organized a rescuing party, and decided upon a systematic order of procedure with reference to the removal of the after-damp, and the work of recovering the bodies of those yet left in the mine. When all the injured had been removed, means were at once taken to restore the ventilation, which was accomplished by shutting up the mouth of the upcast shaft, except the part of it that had connection with the fan, and the erection of canvas on the timbers of the derrick on top of air shaft, which caught the wind (blowing strongly up the valley) and acted as a cowl and forced the air down the shaft in quite a strong current, giving ample air to be taken around the workings. Canvas stoppings were erected in the cut-throughs and the ventilation was restored, which gradually forced back the foul air and allowed the rescuing parties to advance further into the mine. This was continued until the mine was cleared of after-damp and a good current of air was in circulation around the mine. As this work was progressing, several bodies were recovered and sent to the surface. While work was going on below, the hoisting shafe was being fixed up by a temporary cage, to facilitate the work of recovering the bodies.

The air current having been restored, a larger force of men was enabled to work in the mine. All the bodies which were not under falls or underneath the wreckage at the bottom were sent to the surface, but from this time, slow progress was made in the recovery of the bodies, as the falls had to be cleaned up before they could be reached.

Quite a number of bodies were found under the debris at the bottom of the shaft, all were horribly mutilated, and it was five days from the date of of explosion before the last body was recovered.

On account of the small area of the developments of the mine workings, the force of the explosion had comparatively small room for expansion, consequently its force was confined and concentrated on the entries and passageways, and as most of the men were on these passageways proceeding to their work, they met the full force of the explosion. The men who escaped, worked on the other side of the shaft from where the explosion originated, and were saved by reason of the air being forced back into their working places under pressure of the explosive force, compressing it until it equaled the force of the explosion. They were, therefore, in this cushion of air and did not feel much the effects of the explosion, except in passing through the after-damp on their way to the air shaft.

The cause of the explosion was the ignition of gas, in No. 3 room, on No. 3 butt entry, north of main entry, by Andy Yaminiski.

Just how so large a body of gas had accumulated in so short time is largely a matter of conjecture.

The fire-boss made an examination of room No. 3 two and one-half hours previous to the accident and reported it clear of gas. In No. 2 room adjoining, he reported gas as being found at the face six inches deep and extending back 18 feet.

There was a clay vein near the mouth of No. 2 room from which gas was given off. When the current of air was going at its usual volume, this room would be kept clear of gas, but when the current was cut off it would accumulate in greater or lesser quantities in proportion to the volume of air passing. That the current must have been cut off between the visit of the fire-boss at four o'clock, and half past six when Yaminski entered his room is very evident, for there is no doubt that this was the location of the origin of the explosion, and that Yaminski was the only person who could possibly have ignited the gas, he being the only person found in that vicinity. All these facts were thoroughly established by a careful examination of the location, and an investigation into all the surrounding conditions which tended to produce the explosion.

In what manner and by whom the cutting off of the air current was accomplished is a very difficult matter to determine.

There were two doors, either of which, if left open would cut off nearly the entire current of air from circulating in the entry where the rooms were located in which the gas had accumulated, one was at the mouth of No. 1 left entry, and the other located at the entrance to the stables. Now as there were only two persons in the mine at the time the fire-boss made his examination, viz: The fire-boss and water hauler, and as they left the mine together after the examination was made, it is evident that if either of these doors were left open it was by one of these two persons; but each of them swore at the coroner's inquest that the doors were shut, and that the door on No.

1 butt had never been opened during the night, as neither of them had occasion to go through it. It is possible though that it might have been standing open all night and been left open by some other person who went through it the preceding day, on leaving that part of the mine after finishing his day's work. If that were the case (and I am rather of the opinion that it was), it would account for the presence of gas in room No. 2 as found by the fire-boss, and then, if, when the water hauler took his mule into the stable at the expiration of his shift (which was about the time the fire-boss testified to having finished his examination of the mine), and failed to shut the door, the two doors would have been left open, and the air current would be almost completely cut off from No. 3 butt entry, which would allow two and one-half hours for the gas to accumulate in these two rooms before Yaminski entered into room 3 and ignited it.

This to my mind is the only plausible explanation of the presence of the large accumulation of gas in these two rooms, after the visit of the fire-boss, and the time of the explosion.

That these rooms would fill up with gas in a comparatively short time was proven by an experiment by the Inspectors, who made the investigation to determine the location of the explosion.

When first visited by them, these two rooms had no accumulation of gas except in a small space next to the clay vein in No. 2 room.

The air was then cut off for a considerable period, and when visited again there was a large accumulation of gas found in No. 2 room, showing conclusively that the gas would generate very rapidly in these two places, which substantiates the theory that the explosion was the result of an accumulation of gas in Nos. 2 and 3 rooms on No. 3 entry, and that the accumulation was due to the cutting off of the air current in said entry by leaving open of either the door on No. 1 entry, or the door at the entrance to the stable, or both, with the probabilities favorable to the latter being the case. Of course it would be impossible to prove this position, as no testimony could be offered to sustain it, while the direct testimony of both the fire-boss and water hauler is on record, that these two doors were shut, hence the difficulty of fixing the responsibility for this very serious and lamentable accident.

While there is no doubt but that great laxity of discipline was permitted, and gross carelessness existed, yet to locate it and prove it seems to a hopeless task.

It has been said that if locked safety lamps had been used exclusively in this mine, that the accident would probably not have occurred. I am sure that from all the evidence given at the inquest and the facts as demonstrated by the investigation by the Mine Inspectors after the explosion, that in this particular instance the gas would not have been ignited by Yaminski if he had used a safety lamp

instead of an open light. Yet the law does compel the use of safety lamps, only in such places as gas can be detected by the ordinary safety lamp; and the Inspector therefore has no power to enforce the use of locked safety lamps only in such places. Then again, where the coal is being blasted by gunpowder the use of safety lamps seems to be unnecessary for of what use is a safety lamp if blasting be permitted which will produce more flame to ignite gas than all the open lights in a mine combined. Yet the law permits blasting and the Mine Inspectors have no power to stop it. Then again, when the percentage of accidents from explosions is only 5 per cent. of the total from falls of roof and other causes, and where the liability to accidents from these causes would be increased by the use of safety lamps (owing to the imperfect light given by them), probably 10 per cent., while the saving of accidents due to explosions by the exclusive use of safety lamps would probably not exceed 1 per cent., it seems to me that the use of safety lamps exclusively would not tend to decrease the number of accidents, but rather to increase them very materially.

This is a question that has a great many sides, and will bear a great deal of investigation and discussion. Of course when we hear of an explosion that kills a large number of persons at once, we naturally conclude that anything that could be done to prevent them should be put into practice at once, and persons who have given the subject a superficial consideration at once conclude that safety lamps are "just the thing" to prevent these accidents, being entirely ignorant of the fact that when one life would be saved by their use, probably ten would be sacrificed by the increased liability to accidents from other causes which their use would entail.

That accidents will occur in mines where the best regulations are practiced, and where the most careful supervision is exercised, is a fact too patent to be controverted; and it should be the purpose of all laws regulating mines, to enhance the safety of the persons employed therein.

A very exhaustive inquiry was made at the coroner's inquest, which lasted three days, when a large number of witnesses were examined to bring out the facts in connection with the accident, and to place if possible the responsibility on the guilty parties.

After hearing all the evidence, the jury found the following verdict: "We find that Andy Yaminski and 18 other persons came to their deaths December 23, 1899, from an explosion of fire-damp in the Braznell mine, of the Stockdale Coal Co., situated in Jefferson township, Fayette county, Pa. Which explosion we believe from the evidence, was caused by the negligence of the mine-foreman in failing to see that the mine was in a safe condition before permitting workmen to enter it.

We also find that the fire-boss of said mine was negligent, in failing to make a daily verbal report of the condition of the mine to the mine foreman. And we believe both the mine foreman and fire-boss incompetent to perform their respective duties."

When the inquest was concluded the work of cleaning up and repairing the damage done to the mine was continued, and vigorously pushed until everything was put into good condition, and operations were resumed in the mine. A new 20 foot fan has been constructed at the air shaft which now gives an abundance of air.

The mine is now better in every particular that it was before the accident. An entirely new set of mine officials is now in charge, who will doubtless profit by the lessons which the disaster gave to their predecessors.

Greater vigilance and stricter discipline is required, and expected from them by the company, which will doubtless result in greater safety and better general results than formerly.

Smithfield.—Did not at any time during the year have enough men employed inside to bring it under the provisions of the law, yet it was visited regularly the same as the other mines.

It was always found in good condition, both as to ventilation and drainage.

Merchants Nos. 1, 2 and 3.—These mines have been operated very fully during the year, except No. 3 which is just in course of development. The mining of coal is done by electric machines of the Jeffery type, and the coal is hauled by electric motors, all of which has increased and cheapened the production very materially. The conditions of the mine were good.

For a short time during the year the air was slack at the back end of No. 2 mine, but an opening was made into a small country bank which gave a supply of air near the face of workings that has been sufficient for all purposes. On account of the extensive blasting done at these mines, large volumes of air are required to keep them free from powder smoke. Indeed they are never entirely free, for the air current is so charged with it from the constant blasting, that clouds of smoke are continually being carried over the men; yet at each visit I found much more air than the law requires. The other conditions are good.

Standard Nos. 1 and 2.—Are in fair condition. As the workings are going to the dip mostly, the drainage is not so good as it should be in some parts of the mines. New openings will be made in the spring at the dip of the property, when the workings will be all to the rise which will insure good drainage.

Ponfeigh.—This mine has not been in a satisfactory condition, as part of the year the ventilation was inadequate, especially in the lower part of the mine, which has now been abandoned and work confined to the upper part which has a fair volume in circulation.

Allegheny.—This is a new mine opened out during the year. The coal is reached by a slope through the overlying strata. There is a shaft now being sunk 90 feet to the coal, for a second opening, which will also furnish ventilation by means of a fan erected on top of it.

The coal is mined by machinery, operated by compressed air. The improvements are of a substantial character and consist of compressor, hoisting engines, boilers, etc., all of which are inclosed in substantial buildings. When the mine is developed a large quantity of coal will be produced. Not more than 20 persons can be employed in the mine at one time until the second opening is made.

Fairview.—The coal in this mine is very nearly exhausted from the big vein, nothing being left but the main heading pillars which are rapidly approaching the pit mouth.

A new opening has been made into the four foot vein overlying the big vein. As the pillars have all been taken out in the big vein, there may be some difficulty experienced in working the overlying seam, on account of the broken character of the strata, due to the taking out of the underlying coal seam. The ventilation and drainage are good.

Tub Mill Run.—This mine was in good condition at each visit, the air current being well distributed and in ample volume around the workings. Drainage and general conditions satisfactory.

Berlin.—A new opening was made and driven through into the old workings of the old mine, the old furnace was utilized and a good volume of air put into circulation through the mine which has produced more coal and employed more men than at any former period of its history. The drainage and other conditions were very satisfactory at each visit.

Casselman.—Was greatly improved during the year. A new slope has been made from which the coal is now hauled out of the mine. The old slope is used for ventilation. A fan has been erected, which with the aid of the steam pipes, carried down it to run the pumps in the mine, causes a strong current of air to be exhausted from the mine. The airways have been improved and the distance lessened through which the air has to travel.

All of these aids have resulted in much better ventilation. The opening out of the new slope has made it possible to extend the length of the side tracks on the tipple, and gives opportunity to land greater trips of care from the mine.

The general condition of the mine has been very much improved.

Cumberland.—A new shaft has been sunk from the surface for the purpose of ventilation and also to work the overlying four foot seam of coal. The furnace has not yet been built at the new shaft, but still a marked improvement in the volume of the air is noticeable, which is due to the increased column produced by the difference of

elevation between the pit mouth and the top of new air shaft. The drainage is very good, except in one part of the mine, where a swamp runs across the workings, which makes it necessary to haul the water in water wagons, this makes the road in parts muddy and sloppy. The other conditions are favorable.

Chapman.—Is in fair condition, and at each visit I found everything satisfactory.

Enterprise.—Is a new mine which commenced to run coal on the 24th of May. On my first visit I found no ventilation, there being no means used to furnish it.

I suggested that an air shaft and a furnace would be necessary, the suggestion was acted upon and the mine is now satisfactorily ventilated. The drainage and other conditions are good.

Edna.—Employed only two men and did not come under the provisions of the law, and was visited but once during the year, when it was in satisfactory condition.

Garman.—Is a small mine and produces coal for domestic purposes for the town of Berlin, and has not employed more than nine persons in the mine during the year; consequently it does not come under the provisions of the law. Two visits were made to it and its condition was fairly good.

Grassy Run.—At each visit I found this mine in fairly good condition, and had no reason for complaint, therefore did not make any.

Glen McLaren.—Is an old mine with a new name. It was formerly known as Keystone, but had been idle for a number of years, until it was started last August by the Continental Coal Co., which has improved it by putting in a tail rope haulage and a new compressor to furnish power for mining machines which were to take the place of pick mining. A new shaft has been sunk and a furnace built, which gives ample means of ventilation. This mine is in good condition throughout.

Hamilton.—The condition of this mine has been improved with regard to ventilation, and is now in a satisfactory condition.

Lottie.—Is a new mine which has been opened during the year and has been shipping coal since October, having been operated forty-six days. This is intended to be an extensive plant, and the improvements are all of the most modern type, consisting of a tipple-house, blacksmith shop, and dwelling houses. One mile of railroad had to be built to connect with the Berlin branch of the B. & O. Railroad. The mine is well laid out and will be ventilated by fan.

Milford.—Is a new mine, which shipped only a little coal during the last month of the year. It was formerly operated by the Somerset Stone Co. for the purpose of furnishing coal for their own use, but they decided to operate more extensively and ship coal to market.

It was not visited, as it did not employ enough men to bring it under the requirements of law.

Pen Mar.—At this mine the ventilation was found inadequate to remove the powder smoke. At each visit I complained to the mine foreman about the lack of ventilation, and notified the superintendent that means must be furnished to supply a greater volume of air.

This mine is worked exclusively with mining machines and there is a great deal of blasting done, which vitiates the air current and renders it unfit for men to work in.

The furnace is inadequate to produce sufficient volume of air to properly ventilate the mine, and on account of the shallowness of the surface their cannot be procured a sufficient depth of shaft to give motive column to produce the requisite amount of air for the mine.

I have advised the use of a fan, and the Superintendent has promised to take the matter up with his company.

The drainage was good. A new tail rope system of haulage was installed during the year which gives satisfactory results.

Statler.—Is a new mine having worked only twenty days in the month of December and shipped only 200 tons of coal. The opening is made into one of the lower coal seams.

It does not yet come under the provisions of the law.

Shaws.—Is in good condition, having an abundance of air which is well distributed around the working places. The drainage and general conditions are all that could be desired.

A Jeffery mining machine was tried, but not giving the result anticipated was withdrawn, and the coal is produced by pick mining as formerly.

Thomas.—Is in fair condition. At the beginning of the year I found the air current sluggish at the working faces, and requested the superintendent to put in some brattices in the cut-throughs, and a door on the heading to conduct the air up to the face of the workings. This he did and the air has been satisfactory ever since. The other conditions are very satisfactory.

Gooseberry.—This mine employed a sufficient number of men to bring it under the requirements of law for a short time only during the year. At each of my visits I found it in good condition, having ample ventilation and being well drained.

The coal is not shipped to market, being mostly used to supply fuel for the manufacture of brick by the Savage Fire Brick Co., which owns it.

The clay is also mined in conjunction with the coal as it lies immediately under it.

Some of the coal is used by the B. & O. locomotives that work on the heavy grade between Hyndman and Sand Patch Summit as pushers.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Fifth Bituminous District.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Ayr	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Leith	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Leisenring No. 1	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Leisenring No. 2	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Leisenring No. 3	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Dilworth	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Banstone	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Adelaide	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Ayer	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Youngstown	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Connellsville No. 1	Fayette,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Connellsville No. 2	Fayette,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Shoaf	Fayette,	Pittsburgh Coal Co.,	George W. Schluederberg,	Tussy Bldg., Pittsburgh.
Thrift	Fayette,	Pittsburgh Coal Co.,	George W. Schluederberg,	Tussy Bldg., Pittsburgh.
Dunbar	Fayette,	Pittsburgh Coal Co.,	George W. Schluederberg,	Tussy Bldg., Pittsburgh.
Gibbstone	Fayette,	Pittsburgh Coal Co.,	George W. Schluederberg,	Tussy Bldg., Pittsburgh.
Banning	Fayette,	Pittsburgh Coal Co.,	George W. Schluederberg,	Tussy Bldg., Pittsburgh.
Pearl	Fayette,	W. J. Rainey,	T. J. Mitchell,	Connellsville.
Elm Grove	Fayette,	W. J. Rainey,	T. J. Mitchell,	Connellsville.
Mt. Braddock	Fayette,	W. J. Rainey,	T. J. Mitchell,	Connellsville.
Rainey	Fayette,	W. J. Rainey,	T. J. Mitchell,	Connellsville.
Normal	Fayette,	Cambria Steel Co.,	M. G. Moore,	Johnstown.
Marion-Atlas	Fayette,	Cambria Steel Co.,	M. G. Moore,	Johnstown.
Wheeler	Fayette,	Cambria Steel Co.,	M. G. Moore,	Johnstown.
Continental No. 1	Fayette,	Continental Coke Co.,	Jared Rice,	Uniontown.
Continental No. 2	Fayette,	Continental Coke Co.,	Jared Rice,	Uniontown.
Continental No. 3	Fayette,	Continental Coke Co.,	Jared Rice,	Uniontown.
Eureka	Fayette,	Eureka Fuel Co.,	J. P. Bremen,	Masontown.
Jacksonville	Fayette,	Eureka Fuel Co.,		
Fairchance	Fayette,	Eureka Fuel Co.,		
Latrobe	Fayette,	American Coke Co.,	John McFadyen,	Latrobe.
Leonard	Fayette,	American Coke Co.,	John McFadyen,	Latrobe.
Upton	Fayette,	American Coke Co.,	John McFadyen,	Latrobe.
Washington No. 1	Fayette,	Washington Coal and Coke Co.,	John S. Newmeyer,	Dawson.
Washington No. 2	Fayette,	Washington Coal and Coke Co.,	John S. Newmeyer,	Dawson.
Oliver No. 1	Fayette,	Oliver & Snyder Steel Co.,	Fred. C. Keighley,	Uniontown.
Oliver No. 2	Fayette,	Oliver & Snyder Steel Co.,	Fred. C. Keighley,	Uniontown.
Acme	Fayette,	Acme Coke Co.,		
Standard	Fayette,	Standard Coke Co.,		
Perry	Fayette,	Perry Coal Co.,		
Connellsville No. 1	Fayette,	Connellsville Coke Co.,		
Cassiland	Fayette,	The Atlas Coke Co.,		
Chester	Fayette,	E. A. Humphries & Co.,	E. A. Humphries,	Scottdale.
Cheat Haven	Fayette,	Cheat Haven Coal Co.,		
Larissa	Fayette,	James Cochran Sons & Co.,	M. M. Cochran,	Uniontown.
Evergreen	Fayette,	Dunbar Furnace Co.,	S. G. Valentine,	Dunbar.

Juniata,	Fayette,	Juniata Coke Co.,	M. M. Cochran,	Uniontown.
Lincoln,	Fayette,	A. L. Keister & Co.		
Mt. Hope,	Fayette,	Isaac Taylor.		
Nellie,	Fayette,	Brown & Cochran,	J. R. Laughrey,	Dawson.
Percy,	Fayette,	Percy Mining Co.		
Rocks,	Fayette,	Rocks Coal Co.		
Stewart,	Fayette,	Stewart Iron Co., Ltd.,	Samuel McClure,	Sharon.
Snider,	Fayette,	Edward Snider.		
Sumner,	Fayette,	Stockdale Coal Co.,	A. S. Braznell,	Braznell.
Smithfield,	Fayette,	J. D. Boyd.		
Merchants No. 1,	Somerset,	Merchants' Coal Co.,	R. S. Garrett,	Elk Lick.
Merchants No. 2,	Somerset,	Merchants' Coal Co.,	R. S. Garrett,	Elk Lick.
Merchants No. 3,	Somerset,	Merchants' Coal Co.,	R. S. Garrett,	Elk Lick.
Standard No. 1,	Somerset,	W. T. Rainey,	S. P. Brubaker,	Berlin.
Standard No. 2,	Somerset,	W. T. Rainey,	S. P. Brubaker,	Berlin.
Ponfeigh,	Somerset,	W. D. Althouse & Co.,	W. D. Althouse,	Reading Terminal, Phila
Allegheny,	Somerset,	W. D. Althouse & Co.		
Fairview,	Somerset,	Fairview Coal Co.		
Tub Mill Run,	Somerset,	Fairview Coal Co.		
Berlin,	Somerset,	Stoner Coal Co.,	John O. Stoner,	Berlin.
Casselman,	Somerset,	Casselman Coal Co.,	William J. Hocking,	Meyersdale.
Chapman,	Somerset,	Chapman Coal Mining Co.,	W. J. Chapman,	Baltimore.
Cumberland,	Somerset,	Cumberland and Summit Coal and Coke Co.,	Fred. Rowe,	Meyersdale.
Enterprise,	Somerset,	W. A. Merrill,	W. A. Merrill,	Garrett.
Edna,	Somerset,	Connellsville and Ursina Coal and Coke Co.,	E. H. Reid,	Scottdale.
Garman,	Somerset,	W. A. Garman.		
Grassy Run,	Somerset,	Grassy Run Coal Co.		
Glen McLaran,	Somerset,	The Continental Coal Co.,	M. McDonald Price,	Baltimore.
Hamilton,	Somerset,	Duncombe & Adams.		
Lottie,	Somerset,	Pine Hill Coal Co.,	William P. Hurst,	Pine Hill.
Milford,	Somerset,	Somerset Stone Co.		
Pen-Mar,	Somerset,	W. K. Niver & Co.		
Statler,	Somerset,	Statler Coal Co.		
Shaws,	Somerset,	Cumberland and Elk Lick Coal Co.		
Thomas,	Somerset,	Benjamin Thomas & Son.		
Gooseberry,	Bedford,	Savage Fire Brick Co.,	J. J. Hoblitzell,	Meyersdale.

TABLE I—Continued.

Names of Collieries	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Kyle	George Irvin	Fairchance		I. W. Rickerd	J. M. Sheets.
Leith	Harry Whyel	Uniontown		Patrick Locke	David Ainsley.
Leisenring No. 1	Austin King	Leisenring		Patrick Mullen	James McGleine.
Leisenring No. 2	Chas. J. Warnock	West Leisenring		John W. Foster	J. A. Rockwell.
Leisenring No. 3	Edward O'Toole	Leisenring		Wm. Bainbridge	W. R. Dolan.
Oliphant	C. C. Gadd	Oliphant Furnace		James Small	Mart Brey.
Redstone	Leo Bullions	Brownfield		Elijah Parker	L. C. Watt.
Trotter	P. J. Tormay	New Haven		James Hart	J. P. Donahoe.
Wynn	C. C. Gadd	Oliphant Furnace		J. W. Wilson	George Robinson.
Youngstown	William Coulson	Lemont Furnace		A. C. Latimer	Adam Vida.
Lemont No. 1	Chas. J. Coll	Lemont Furnace		Patrick Reynolds	G. B. Gilmore.
Lemont No. 2	Chas. J. Coll	Lemont Furnace		John Higson	H. H. Jones.
Smock	J. W. Blower	Smock		Foster G. Watson	Foster G. Watson
Hurst	J. W. Blower			D. R. Blower	D. R. Blower.
Eleanor	J. W. Blower			John Harley	John Harley.
Grindstone	J. W. Blower			Ben Holiday	Ben. Holiday.
Havens	J. W. Blower			John Stathan	John Stathan.
Paul	T. J. Mitchell	Connellsville		Robert Nelson	John Shaw.
Elm Grove	T. J. Mitchell	Connellsville		James Exton	M. McPortland.
Mt. Braddock	F. C. Cunningham	Mt. Braddock		E. B. Jones	W. H. Sterling
Gerstle	George Whyel	Uniontown		Simeon Wilson	
Morrell	Martin Meagher	Connellsville	Frank Deary	John McNulty	John Burns.
Mahanoy-Atlas	Martin Meagher			Edward Mooney	John Brophy.
Wheeler	Martin Meagher			James S. Connor	Wm. R. Meagher.
Continental No. 1					
Continental No. 2					
Continental No. 3					
Footdale	A. E. Harper	McClellentown			
Leckrone	Elias Phillips	Uniontown		Hugh Ross	
Burlington	John C. Neff	Masontown			
Edenborn	Everhart Bierer	Uniontown			
Lambert	Everhart Bierer	Uniontown	James Graham		
Gates	S. B. Graham				
Washington No. 1	George Santmeyer	Star Junction		David Thomas	Edward Smith.
Washington No. 2	George Santmeyer	Star Junction		John Bell	Joseph Luce.
Oliver No. 1	Fred. C. Keighley	Uniontown		Albert J. Williams	William P. Bailey.
Oliver No. 2	Fred. C. Keighley	Uniontown		J. J. Thomas	William P. Bailey.
Acme	John W. Stirling	Fairchance		John W. Sterling	John W. Stirling.
Bourne	George W. Whetzel	Smithfield		Herman Stekelbeck	George W. Whetzel.
Bessie	David P. V. Larimer	Perryopolis		Chas. McGregor	Wesley Weimen.
Connellsville No. 1	H. M. Wilson	Cams		H. M. Wilson	
Crossland	James Henderson	Uniontown		David Walters	William Gilbert.
Chester	R. J. Humphries	Vance Mills		James Henderson	R. J. Humphries.
Cheat Haven	P. B. Hambry	Cheat Haven		George W. Gibson	
Clarissa	Nelson A. Rist	Vanderbilt		J. C. Moore	
Ferguson	John W Greaves	Dunbar		John Smock	

Juniata,	Adam Nicholson,	Juniataville,	John Nicholson,	William Cochran.
Lincoln,	M. A. McCoombs,		James H. Paton,	
Mt. Hope,	Isaac Taylor,	Uniontown,	George Armstrong,	Eastman Frost.
Nellie,	J. W. Knight,	Vandergrift,	David Young,	J. W. Knight.
Percy,	Louis de Saulles,	Uniontown,	E. Shipley,	E. Shipley.
Rocks,	Frank Rocks,	Connellsville,	Frank Rocks,	Frank Rocks.
Stewart,	E. M. Peters,	Uniontown,	I. G. Roby,	Aaron Koon.
Snider,	Thomas Clark,	Uniontown,	Thomas Clark,	Thomas Clark.
Sumner,	H. A. Bowyer,	Monongahela,	Thomas Jones,	
Smithfield,	A. E. Boyd,	Smithfield,		A. E. Boyd.
Merchants No. 1,			C. S. Lechliter,	
Merchants No. 2,			Joseph Miller,	
Merchants No. 3,			James Harding,	
Standard No. 1,			Orlando Flesher,	
Standard No. 2,			John Connor,	John Connor.
Pontiac,	H. S. Walker,	Garrett,	John Connor,	John Connor.
Allegheny,	H. S. Walker,	Garrett,	Henry Naylor,	
Fairview,	Thomas Rees,	Meyersdale,	John Carrol,	
Tub Mill Run,	Stewart Smith,	Elk Lick,	Thomas Rees,	
Berlin,			Alexander Heslop,	C. J. Baker.
Casselman,			C. J. Baker,	Chas. Hoffa.
Chapman,	R. A. Winters,	Coal Run,	Chas. Hoffa,	
Cumberland,			R. A. Winters,	
Enterprise,			J. Rowe, Senr.	
Elna,			Henry Naylor,	
Garman,	W. A. Garman,	Berlin,	S. G. Rector,	
Grassy Run,	John Meagher,	Elk Lick,		
Glen McLaran,			John Meagher,	
Hamilton,	George H. Duncombe,	Meyersdale,	George Roebuck,	
Lottie,	D. A. Black,	Pine Hill,	William K. Murray,	
Milford,	J. M. Murdock,	Johnstown,	D. A. Black,	
Pen-Mar,	John Lochre,	Elk Lick,	L. A. Morgan,	
Statler,	E. Statler,	Rockwood,	William Irwin,	
Shaws,	John F. Hosack,	Meyersdale,		E. Statler.
Thomas,	Chas. Thomas,	Meyersdale,	James Phillips,	
Gooseberry,			Ben. Thomas,	Chas. Thomas.
			T. R. Smith,	T. R. Smith.

W. W. Shawhan, T. R. Smith

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TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Fifth Bituminous District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Numuer kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
H. C. Frick Coke Co.													
Kyle,	Fayette,	.....	1,227	1,437	218,250	143,557	295	355	.....	.....	.....	.....	47
Leith,	Fayette,	.....	9,799	1,126	276,030	184,200	281	317	3	1	.....	.....	53
Leisenring No. 1,	Fayette,	.....	6,402	1,320	414,001	276,420	292	534	2	6	.....	2,900	80
Leisenring No. 2,	Fayette,	.....	7,542	2,882	448,606	299,701	296	496	1	3	.....	750	70
Leisenring No. 3,	Fayette,	.....	10,950	11,455	456,003	304,202	303	474	1	1	.....	5,400	81
Oliphant,	Fayette,	.....	4,085	914	140,550	93,756	243	155	1	.....	.....	.....	19
Redstone,	Fayette,	.....	9,002	1,735	369,135	246,009	291	387	.....	.....	2	.....	53
Trotter,	Fayette,	.....	9,000	5,914	426,450	284,350	281	473	.....	5	.....	500	49
Wynn,	Fayette,	.....	802	210	75,007	50,050	298	106	.....	1	.....	.....	15
Youngstown,	Fayette,	.....	5,911	1,501	212,250	141,505	298	266	1	1	.....	.....	40
Total,		.....	64,720	28,494	3,036,282	2,022,742	293	3,563	9	18	2	9,550	490
McClure Coke Co.													
Lemont No. 1,	Fayette,	.....	8,800	2,628	216,679	137,168	300	212	.....	1	.....	.....	30
Lemont No. 2,	Fayette,	.....	5,307	1,414	341,885	223,176	292	355	2	3	.....	58	43
Total,		.....	13,307	4,042	558,564	360,344	296	567	2	3	.....	58	73
Pittsburgh Coal Co.													
Snoek,	Fayette,	117,044	228	740	118,012	.....	260	123	.....	1	947	250	8
Hurst,	Fayette,	30,087	2,250	50	32,387	.....	275	31	.....	.....	210	2,000	3
Eleanor,	Fayette,	66,523	.....	200	67,413	2,069	263	59	.....	1	453	50	6
Circleville,	Fayette,	178,702	3,833	870	198,267	11,000	250	115	7	8	1,634	9,210	12
Hanna,	Fayette,	29,325	.....	.....	29,325	.....	255	36	.....	.....	240	.....	3
Total,		421,681	6,311	1,860	445,404	13,069	260	364	7	10	3,848	11,510	32

W. J. Rainey.													
Paul,	Fayette,		3,435	1,525	248,576	164,982	305	383		2			23
Elm Grove,	Fayette,		1,718	762	113,274	75,848	305	195	1	2			21
Mt. Braddock,	Fayette,		3,436	1,136	137,863	87,654	294	320	1	1			19
*Revere,	Fayette,												
Total,			8,589	5,423	499,713	328,484	301	908	2	5			63
Cambria Steel Co.													
Morrell,	Fayette,		3,467	1,072	138,808	105,175	310	111		1	117	767	25
Mahoning-Atlas,	Fayette,		9,135	985	230,254	172,558	289	398		2	450		40
Wheeler,	Fayette,		1,653	1,003	86,184	65,644	310	97	1		12	14	16
Total,			14,255	3,060	455,246	343,377	303	606	1	3	579	781	81
Continental Coke Co.													
*Continental No. 1,	Fayette,												
*Continental No. 2,	Fayette,												
*Continental No. 3,	Fayette,												
Eureka Coal Co.													
*Footdale,	Fayette,												
*Leckrone,	Fayette,												
*Buffington,	Fayette,												
American Coke Co.													
*Edenborn,	Fayette,												
*Lambert,	Fayette,												
*Gates,	Fayette,												
Washington Coal & Coke Co.													
Washington No. 1,	Fayette,	429,494	7,022	2,660	747,071	205,250	308	561			6,000	8,000	34
Washington No. 2,	Fayette,	214,747	3,511	1,330	244,392	16,536	308	224			2,000	4,000	12
Total,		644,241	10,533	3,990	991,463	221,786	308	785			8,000	12,000	46
Oliver & Snyder Steel Co.													
Oliver No. 1,	Fayette,	274	6,314	2,917	330,705	220,470	306	368	2	1			26
Oliver No. 2,	Fayette,		4,157	1,826	313,035	208,689	307	291	2	1		250	31
Total,		274	10,471	4,743	643,740	429,159	306.5	659	4	2		250	57
Acme Coke Co.													
Acme,	Fayette,				4,233	3,100	78	27					2
Standard Coke Co.													
Bourne,	Fayette,		64		19,237	12,900	88	83					6
Perry Coal Co.													
Bessie,	Fayette,	102,396	2,240	3,140	107,776		304	73	1	1	580	450	6
Connellsville Coke Co.													
Connellsville No. 1,	Fayette,		410	68	42,134	27,775	280	86			150	100	4

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
The Atlas Coke Co. Crossland,	Fayette,	.....	355	726	81,947	55,111	308	100	.....	1	15	100	9
E. A. Humphries & Co. Chester,	Fayette,	.....	1,460	450	36,832	28,553	280	65	.....	.....	250	3,800	5
Cheat Haven Coal Co. Cheat Haven,	Fayette,	12,000	.....	1,407	13,407	.....	272	26	1	.....	.....	.....	3
James Cochran Sons & Co. Clarissa,	Fayette,	.....	.....	2,619	81,157	59,701	308	93	.....	.....	100	.....	5
Dunbar Furnace Co. Ferguson,	Fayette,	90,365	6,036	2,603	157,144	38,965	287	129	.....	1	.....	100	20
Juniata Coke Co. Juniata,	Fayette,	.....	2,796	1,021	182,310	126,633	291	241	2	2	2,000	400	24
A. L. Keister & Co. Lincoln,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Isaac Taylor & Co. Mt. Hope,	Fayette,	.....	10	100	49,555	34,839	293	68	.....	.....	151	25	5
Brown & Cochran. Nellie,	Fayette,	.....	2,460	440	285,900	189,000	310	318	1	6	.....	.....	35
Percy Mining Co. Percy,	Fayette,	8,308	327	.....	29,091	13,689	296	46	.....	.....	.....	.....	7
Rocks Coal Co. Rocks,	Fayette,	24,743	.....	101	24,844	.....	242	23	.....	.....	800	.....	3

Stewart Iron Co., Ltd.													
Stewart,	Fayette,	.....	4,985	692	143,048	90,697	310	145	.....	2	.....	.....	5
Edward Snider.													
Snider,	Fayette,	.....	.....	6,520	6,520	.....	177	11	.....	.....	.....	.....	2
Stockdale Coal Co.													
Sumner,	Fayette,	44,190	285	200	44,675	.....	241	82	19	4	35	.....	5
J. D. Boyd.													
Smithfield,	Fayette,	1,541	114	37	11,484	6,528	287	20	.....	.....	.....	.....	2
Merchants' Coal Co.													
Merchants' No. 1,	Somerset,	55,670	50	50	55,770	.....	194	86	.....	4	375	.....	5
Merchants' No. 2,	Somerset,	81,505	1,675	225	83,405	.....	258	113	.....	2	525	.....	7
†Merchants' No. 3,	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,		137,175	1,725	275	139,175	.....	226	199	.....	6	900	.....	12
W. T. Rainey.													
Standard No. 1,	Somerset,	5,403	.....	25	5,428	.....	154	16	.....	.....	120	.....	2
Standard No. 2,	Somerset,	1,817	.....	50	1,867	.....	72	16	.....	.....	60	250	1
Total,		7,220	.....	75	7,295	.....	113	32	.....	.....	180	250	3
W. D. Althouse & Co.													
Ponfeigh,	Somerset,	12,044	848	148	13,040	.....	151	49	.....	.....	.....	200	2
Allegheny,	Somerset,	1,765	280	55	2,100	.....	46	37	.....	.....	.....	200	2
Total,		13,809	1,128	203	15,140	.....	99	86	.....	.....	.....	400	4
Fairview Coal Co.													
Fairview,	Somerset,	30,100	60	100	30,960	.....	246	46	.....	.....	389	25	.....
Tub Mill Run,	Somerset,	33,500	.....	1,847	35,727	.....	236	42	.....	.....	411	.....	4
Total,		63,600	60	1,947	66,687	.....	241	88	.....	.....	800	25	4
Stoner Coal Co.													
Berlin,	Somerset,	16,021	5	.....	16,026	.....	193	26	.....	.....	98	15	3
Casselman Coal Co.													
Casselman,	Somerset,	33,500	900	200	34,600	.....	312	34	.....	.....	275	.....	6
Chapman Coal Mining Co.													
Chapman,	Somerset,	62,482	.....	.....	62,482	.....	240	68	.....	1	475	.....	6
Cumberland & Summit Coal & Coke Co.													
Cumberland,	Somerset,	128,571	.....	1,537	132,270	1,299	294	157	.....	.....	1,581	600	16
W. A. Merrill.													
Enterprise,	Somerset,	9,580	.....	35	9,615	.....	135	34	.....	.....	125	75	3

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Connellsville & Ursina Coal & Coke Co.													
Edna,	Somerset,	1,164		250	1,414		204	2					1
W. A. Garman.													
Garman,	Somerset,	4,034		494	4,528		84	11			50		1
Grassy Run Coal Co.													
Grassy Run,	Somerset,	43,214			43,214		242	57			481		5
The Continental Coal Co.													
Glen McLaran,	Somerset,	6,900	500	50	7,450		80	78		4	166		4
Duncombe & Adams.													
Hamilton,	Somerset,	54,441			54,441		205	80			772	25	5
Pine Hill Coal Co.													
Lottie,	Somerset,	3,100		100	3,200		46	45	1		20		2
Somerset Stone Co.													
Milford,	Somerset,	600		1,400	2,000		200	2			10		
W. K. Niver & Co.													
Pen-Mar,	Somerset,	83,000	1,000	500	84,500		241	112			1,200	35	7
Statler Coal Co.													
Statler,	Somerset,	200			200		20	11			4	25	2
Cumberland & Elk Lick Coal Co.													
Shaws,	Somerset,	145,570	618	1,301	181,498	22,672	276	182			1,600		7

Benjamin Thomas & Son. Thomas,	Somerset,	31,738	.....	.....	31,738	.....	293	32	.....	.....	207	.....	3
Savage Fire Brick Co. Gooseberry,	Bedford,	18,412	.....	4,923	23,335	.....	296	24	.....	.....	120	.....	3

*In course of construction.

†Included in No. 2.

Recapitulation.

Individual collieries in	Fayette,	283,543	21,542	20,154	1,321,284	687,491	280	1,636	24	17	4,681	4,675	148
H. C. Frick Coke Co.,	Fayette,	.....	64,720	28,494	3,036,282	2,023,742	293	3,563	9	18	2	9,350	460
McClure Coke Co.,	Fayette,	.....	13,307	4,042	558,564	360,344	296	567	2	4	.....	38	73
Pittsburgh Coal Co.,	Fayette,	421,681	6,311	1,869	445,404	13,069	260	364	7	10	3,848	11,510	32
W. J. Rainey,	Fayette,	.....	8,589	3,423	499,713	328,484	301	908	2	5	.....	.....	63
Cambria Steel Co.,	Fayette,	.....	14,255	3,060	455,246	343,377	302	606	1	3	574	781	81
Washington Coal and Coke Co.,	Fayette,	644,241	10,533	3,990	901,463	221,786	308	785	.....	.....	8,000	12,000	46
Oliver & Snyder Steel Co.,	Fayette,	274	10,471	4,743	643,740	429,159	306.3	659	4	2	.....	250	57
Merchants' Coal Co.,	Somerset,	137,175	1,725	275	139,175	.....	226	199	.....	6	900	.....	12
W. T. Rainey,	Somerset,	7,220	.....	75	7,295	.....	113	32	.....	.....	180	250	3
W. D. Althouse & Co.,	Somerset,	13,809	1,128	203	15,140	.....	99	86	.....	.....	.....	400	4
Fairview Coal Co.,	Somerset,	63,600	60	1,947	66,687	.....	241	88	.....	.....	800	25	4
Individual collieries in	Somerset,	624,115	3,023	5,867	669,176	23,971	230	931	1	5	7,019	.....	71
Individual colliery in	Bedford,	18,412	.....	4,923	23,335	.....	296	24	.....	.....	120	.....	3
Grand total,	.....	2,214,070	155,664	83,056	8,872,514	4,431,423	272	10,448	56	76	25,524	40,274	987

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
H. C. Frick Coke Co.																	
Kyle,	Fayette,	.....	.....	5	225	225	1	.....	.....	3	145	1	530	300	.....	.....	306
Leith,	Fayette,	2	90	7	482	572	1	.....	.....	5	815	3	1,900	550	1	1	308
Leisenring No. 1,	Fayette,	.....	.....	13	810	810	3	1	.....	8	1,080	2	800	600	1	2	500
Leisenring No. 2,	Fayette,	4	160	6	300	460	2	.....	.....	8	1,100	2	1,000	300	1	1	500
Leisenring No. 3,	Fayette,	.....	.....	9	630	630	2	.....	.....	6	780	2	600	300	1	1	504
Oliphant,	Fayette,	.....	.....	7	350	350	.....	.....	.....	3	585	2	1,100	800	.....	1	202
Redstone,	Fayette,	2	70	12	695	765	2	.....	.....	8	665	3	1,400	450	.....	1	445
Trotter,	Fayette,	.....	.....	4	660	660	.....	.....	.....	4	885	2	1,000	400	1	1	464
Wynn,	Fayette,	.....	.....	4	180	180	.....	.....	.....	2	95	.....	.....	.....	.....	.....	130
Youngstown,	Fayette,	.....	.....	8	480	480	1	.....	.....	3	310	2	1,200	360	.....	1	240
Total,		8	320	75	4,812	5,132	12	1	.....	50	6,460	19	9,830	4,060	5	9	3,599
McClure Coke Co.																	
Lemont No. 1,	Fayette,	2	30	4	240	320	2	.....	.....	2	650	2	1,300	975	.....	.....	227
Lemont No. 2,	Fayette,	.....	.....	11	950	950	.....	.....	.....	4	695	3	1,550	1,100	.....	1	350
Total,		2	30	15	1,190	1,270	2	.....	.....	6	1,345	6	2,850	2,075	.....	1	577
Pittsburgh Coal Co.																	
Smock,	Fayette,	.....	.....	1	15	15	.....	.....	.....	2	9	.....	.....	.....	.....	.....	.....
Hurst,	Fayette,	.....	.....	2	250	250	.....	.....	.....	4	117	2	140	18	.....	1	.....
Eleanor,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	6
Grindstone,	Fayette,	.....	.....	3	375	375	.....	.....	.....	5	960	1	650	498	1	.....	31
Hanna,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,		.....	.....	6	640	640	.....	.....	.....	11	1,086	3	790	516	1	1	37

W. J. Rainey.																	
Paul,	Fayette,	7	750	.....	.....	750	1	.....	.....	3	700	3	1,600	800	.....	2	417
Elm Grove,	Fayette,	5	375	.....	.....	375	.....	.....	.....	1	50	1	250	150	.....	.....	217
Mt. Braddock,	Fayette,	9	675	.....	.....	675	1	.....	.....	3	900	3	1,500	1,000	.....	2	350
*Revere,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,		21	1,800	.....	.....	1,800	2	.....	.....	7	1,650	7	3,350	1,950	.....	4	984
Cambria Steel Co.																	
Merrell,	Fayette,	.....	.....	2	90	90	.....	.....	.....	2	60	.....	.....	.....	.....	.....	100
Mahoning-Atlas,	Fayette,	.....	.....	10	450	450	1	.....	.....	2	77	2	900	400	.....	.....	378
Wheeler,	Fayette,	.....	.....	2	90	90	.....	.....	.....	1	25	.....	.....	.....	.....	.....	102
Total,		.....	.....	14	630	630	1	.....	.....	5	162	2	900	400	.....	.....	580
Continental Coke Co.																	
*Continental No. 1,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Continental No. 2,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Continental No. 3,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eureka Coal Co.																	
*Footdale,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Leckrone,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Buffington,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
American Coke Co.																	
*Edenborn,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Lambert,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Gates,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Washington Coal & Coke Co.																	
Washington No. 1,	Fayette,	.....	.....	6	600	600	.....	.....	.....	2	310	1	400	250	.....	1	320
Washington No. 2,	Fayette,	.....	.....	4	400	400	.....	.....	.....	1	270	1	500	250	1	1	100
Total,		.....	.....	10	1,000	1,000	.....	.....	.....	3	580	2	900	500	1	2	420
Oliver & Snyder Steel Co.																	
Oliver No. 1,	Fayette,	.....	.....	8	480	480	1	.....	.....	3	500	1	700	500	1	.....	328
Oliver No. 2,	Fayette,	.....	.....	6	360	360	1	.....	.....	3	460	.....	.....	.....	.....	.....	380
Total,		.....	.....	14	840	840	2	.....	.....	6	960	1	700	500	1	.....	708
Acme Coke Co.																	
Acme,	Fayette,	.....	.....	2	33	33	1	.....	.....	.....	.....	.....	.....	.....	.....	.....	32
Standard Coke Co.																	
Bourne,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	80
Perry Coal Co.																	
Bessie,	Fayette,	.....	.....	1	40	40	.....	.....	.....	2	.....	2	280	.....	1	.....	.....
Connellsville Coke Co.																	
Connellsville No. 1,	Fayette,	.....	.....	1	100	100	.....	.....	.....	1	40	2	108	15	.....	.....	80

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
The Atlas Coke Co. Crossland,	Fayette,,	.....	.....	1	25	25	.....	.....	.....	1	20	.....	.....	.....	.....	.....	100
E. A. Humphries & Co. Chester,	Fayette,	3	250	.....	.....	250	.....	.....	.....	2	35	3	180	150	.....	.....	50
Cheat Haven Coal Co. Cheat Haven,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
James Cochran Sons & Co. Clarissa,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	108
Dunbar Furnace Co. Ferguson,	Fayette,	.....	.....	6	360	360	.....	.....	.....	1	100	1	300	200	.....	.....	220
Juniata Coke Co Juniata,	Fayette,	.....	.....	5	400	400	1	.....	.....	1	37	2	500	305	.....	.....	250
A. L. Kelster & Co. *Lincoln,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Isaac Taylor & Co. Mt. Hope,	Fayette,	1	40	.....	.....	40	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	72
Brown & Cochran Nellie,	Fayette,	2	100	1	80	180	1	.....	.....	1	65	3	900	500	.....	.....	320
Percy Mining Co. Percy,	Fayette,	3	75	.....	.....	75	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	36
Rocks Coal Co. Rocks,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Stewart Iron Co., Ltd.																	
Stewart,	Fayette,			5	250	250				2	90	3	816	450		1	155
Edward Snider.																	
Snider,	Fayette,																
Stockdale Coal Co.																	
Sumner,	Fayette,			2	200	200				4	100	2	300	125			
J. D. Boyd.																	
Smithfield,	Fayette,	1	10			10				1	10	2	100	50			12
Merchants' Coal Co.																	
Merchants' No. 1,	Somerset,			2	200	200			2	2	430				2		
Merchants' No. 2,	Somerset,																
†Merchants' No. 3,	Somerset,																
Total,				2	200	200			2	2	430				2		
W. T. Rainey.																	
Standard No. 1,	Somerset,																
Standard No. 2,	Somerset,																
Total,																	
W. D. Althouse & Co.																	
Ponfeigh,	Somerset,			2	150	150				1	35	3	350	150			
Alleghony,	Somerset,			2	150	150				1	75	2	200	75		1	
Total,				4	300	300				2	110	5	550	225		1	
Fairview Coal Co.																	
Fairview,	Somerset,																
Tub Mill Run,	Somerset,																
Total,																	
Stoner Coal Co.																	
Berlin,	Somerset,																
Casselman Coal Co.																	
Casselman,	Somerset,	1	40	2	100	140				2	100	2	450	300			
Chapman Coal Mining Co.																	
Chapman,	Somerset,																
Cumberland & Summit Coal & Coke Co.																	
Cumberland,	Somerset,																10
W. A. Merrill.																	
Enterprise,	Somerset,																

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
Connellsville & Ursina Coal & Coke Co.																	
Edna,	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
W. A. Garman.																	
Garman,	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grassy Run Coal Co.																	
Grassy Run,	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
The Continental Coal Co.																	
Ben McLaran,	Somerset,	.....	.....	2	180	180	.....	.....	.....	2	150	1	50	10	.....	1	.....
Duncombe & Adams.																	
Hamilton,	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pine Hill Coal Co.																	
Lottie,	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Somerset Stone Co.																	
Milford,	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
W. K. Niver & Co.																	
Pen-Mar,	Somerset,	.....	.....	2	150	150	.....	.....	.....	1	45	2	150	70	.....	1	.....
Statler Coal Co.																	
Statler,	Somerset,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cumberland & Elk Lick Coal Co.																	
Shaws,	Somerset,	.....	.....	2	210	210	.....	.....	1	1	140	1	100	50	1	.....	75

Benjamin Thomas & Son. Thomas,	Somerset,																
Savage Fire Brick Co. Gooseberry,	Bedford,	1	36			36				1	36						

Recapitulation.

Individual collieries in	Fayette,	10	475	24	1,463	1,963	3			17	497	20	3,484	1,795	1	1	1,524
H. C. Frick Coke Co.,	Fayette,	8	320	75	4,812	5,132	12	1		50	6,160	19	9,830	4,060	5	9	3,599
McClure Coke Co.,	Fayette,	2	30	15	1,190	1,270	2			6	1,345	5	2,850	2,075		1	577
Pittsburgh Coal Co.,	Fayette,			6	640	640				11	1,086	3	790	516	1	1	37
W. J. Rainey,	Fayette,	21	1,800			1,800	2			7	1,650	7	3,350	1,950		4	984
Cambria Steel Co.,	Fayette,			14	630	630	1			5	162	2	900	400			580
Washington Coal and Coke Co.,	Fayette,			10	1,000	1,000				3	580	2	900	500	1	2	420
Oliver & Snyder Steel Co.,	Fayette,			14	840	840	2			6	960	1	700	500	1		708
Merchants' Coal Co.,	Somerset,			2	200	200			2	2	430				2		
W. T. Rainey,	Somerset,																
W. D. Althouse & Co.,	Somerset,																
Fairview Coal Co.,	Somerset,																
Individual collieries in	Somerset,	1	40			680			1	6	435	6	750	430	1	1	[illegible]
Individual colliery in	Bedford,	1	36			36				1	36						
Grand total,		43	2,701	168	11,415	14,191	22	1	3	115	13,641	65	23,554	12,226	12	20	[illegible]

*In course of construction.

†Included in No. 2.

TABLE III—Showing the number of each class of employes at each colliery in the Fifth Bituminous District, during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes	Total outside.	
Kyle	1	1	130	6	17	.....	.....	155	1	4	4	.....	3	188	200	355
Leith	1	2	130	10	17	4	10	174	1	4	10	.....	3	125	143	317
Leisenring No. 1	2	3	200	.....	28	7	36	276	2	4	6	.....	3	240	258	534
Leisenring No. 2	2	3	215	18	27	8	20	293	3	5	8	.....	3	182	203	4 6
Leisenring No. 3	2	3	226	20	38	6	5	244	1	7	5	.....	3	164	180	474
Oliphant	1	1	74	4	9	.....	4	93	1	2	3	.....	3	53	62	155
Redstone	2	4	160	14	24	1	4	209	2	2	12	.....	3	132	178	387
Trotter	1	3	195	13	20	7	5	244	1	5	6	.....	3	214	229	473
Wynn	1	1	52	2	5	.....	4	65	1	3	3	.....	.....	34	41	106
Youngstown	1	2	106	5	15	2	12	143	1	5	7	.....	2	108	123	266
Totals	14	23	1,482	92	209	35	100	1,946	14	53	64	.....	26	1,460	1,617	3,563
Lemont No. 1	1	2	93	.....	14	1	16	127	1	3	5	.....	3	73	85	212
Lemont No. 2	1	2	158	.....	22	5	27	215	1	6	4	.....	.....	129	140	355
Totals	2	4	251	.....	36	6	43	342	2	9	9	.....	3	202	225	567
Smock	1	1	95	5	9	.....	.....	111	.....	2	2	.....	1	7	12	123
Hurst	1	1	20	1	2	.....	.....	25	.....	1	3	.....	1	1	6	31
Eleanor	1	.....	45	1	6	1	.....	54	.....	1	.....	.....	1	3	5	59
Grindstone	1	2	80	2	9	3	4	101	.....	2	4	.....	1	7	14	115
Hanna	1	.....	30	.....	3	.....	.....	34	.....	1	.....	.....	1	.....	2	36
Totals	5	4	270	9	29	4	4	325	.....	7	9	.....	5	18	39	364

Paul,	2	2	147	5	21	4	5	186	1	6	5	.....	10	175	197	383
Elm Grove,	2	2	75	3	10	2	4	98	1	3	3	.....	5	85	97	185
Mt. Braddock,	2	2	126	4	15	3	8	160	1	5	5	1	8	150	170	330
Revere,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals,	6	6	348	12	46	9	17	444	3	14	13	1	23	410	464	908
Morrell,	1	1	43	10	7	.....	8	70	1	3	3	.....	1	33	41	111
Mahoning-Atlas,	1	2	175	22	25	.....	15	240	1	6	7	.....	1	143	158	398
Wheeler,	1	.....	42	5	5	.....	1	54	1	1	3	.....	1	37	43	97
Totals,	3	3	260	37	37	.....	24	364	3	10	13	.....	3	213	242	606
Washington No. 1,	2	3	340	14	39	.....	19	417	3	5	7	.....	5	121	144	561
Washington No. 2,	1	1	150	7	9	1	3	172	3	4	6	.....	.....	39	52	224
Totals,	3	4	490	21	48	1	22	589	6	9	13	.....	5	163	196	785
Oliver No. 1,	1	2	162	.....	17	.....	31	213	1	18	4	.....	2	130	155	368
Oliver No. 2,	2	2	143	1	20	1	30	199	.....	2	3	.....	2	85	92	291
Totals,	3	4	305	1	37	1	61	412	1	20	7	.....	4	215	247	659
Acme,	1	.....	12	1	2	.....	.....	16	.....	.....	.....	.....	1	10	11	27
Bourne,	1	.....	40	2	4	.....	.....	47	1	2	.....	.....	1	32	36	83
Bessie,	1	.....	54	2	4	.....	4	65	1	1	2	.....	2	2	8	73
Connellsville No. 1,	1	.....	40	3	2	1	4	51	.....	1	2	.....	1	31	35	86
Crossland,	1	.....	45	2	4	.....	1	53	1	1	1	.....	2	42	47	100
Chester,	1	.....	35	2	2	.....	1	41	.....	1	3	.....	1	19	24	65
Cheat Haven,	1	.....	20	2	.....	.....	.....	23	.....	1	.....	.....	1	1	3	26
Clarissa,	1	.....	46	2	5	.....	.....	54	.....	1	.....	.....	2	36	39	93
Fergusan,	1	1	67	5	5	.....	5	84	1	4	5	.....	1	34	45	129
Juniata,	1	1	115	.....	12	.....	15	144	.....	3	3	.....	2	89	97	241
*Lincoln,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mt. Hope,	1	.....	39	1	4	.....	.....	45	1	.....	.....	.....	1	21	23	68
Nellie,	1	1	145	10	20	5	.....	182	1	3	4	.....	3	125	136	318
Percy,	1	1	20	3	3	.....	.....	28	.....	1	1	.....	1	15	18	46
Rocks,	1	.....	16	.....	2	.....	.....	19	1	.....	.....	.....	1	2	4	23
Stewart,	1	1	60	4	5	1	.....	72	1	2	3	.....	2	65	73	145
Snider,	1	.....	8	.....	1	.....	.....	10	1	.....	.....	.....	.....	.....	1	11
Sumner,	1	1	60	.....	3	2	4	71	.....	2	3	.....	2	4	11	82
Smithfield	.....	.....	6	2	2	.....	.....	10	1	.....	1	.....	1	7	10	20
Total individual collieries,	17	6	828	41	80	9	34	1,015	10	23	28	.....	25	535	621	1,636

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and fireman.	Slate pickers	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Merchants' No. 1.	1	.....	50	10	14	2	.....	77	.....	1	3	.....	2	3	9	86
Merchants' No. 2.	1	.....	76	7	19	.....	.....	103	.....	2	.....	.....	.....	8	10	113
Merchants' No. 3.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals.	2	.....	126	17	33	2	.....	180	.....	3	3	.....	2	11	19	199
Standard No. 1.	1	.....	11	.....	2	.....	.....	14	.....	.....	.....	.....	.....	2	2	16
Standard No. 2.	1	.....	11	.....	1	.....	.....	13	.....	.....	.....	.....	1	2	3	16
Totals.	2	.....	22	.....	3	.....	.....	27	.....	.....	.....	.....	1	4	5	32
Ponfeigh.	1	.....	30	7	3	.....	.....	41	.....	2	2	.....	1	3	8	49
Allegheny.	1	.....	25	.....	3	.....	.....	29	.....	2	3	.....	1	2	8	37
Totals.	2	.....	55	7	6	.....	.....	70	.....	4	5	.....	2	5	16	86
Fairview.	1	.....	30	.....	4	.....	2	37	.....	1	.....	.....	2	6	9	46
Tub Mill Run.	1	.....	32	.....	3	1	1	38	.....	1	.....	.....	1	2	4	42
Total.	2	.....	62	.....	7	1	3	75	.....	2	.....	.....	3	8	13	88

Berlin,	1		22		2			25					1		1	26
Casselman,	1		25	1	4			31		1	1		1		3	34
Chapman,	1		54	3	5	2		65					3		3	68
Cumberland,	1		130	5	10	2		148		4			1	4	9	157
Enterprise,	1		27		3			31	1	1			1		3	34
Edna,			2					2								2
Garman,			9	1	1			11								11
Grassy Run,	1		50		4	1	1	57								57
Glen McLaran,	1		56	6	5	1		63		2	2		2	9	15	78
Hamilton,	1		64		5	3	4	77	1	1			1		3	80
Lottie,	1		35	2	2			40		1			2	2	5	45
Milford,			2					2								2
Pen-Mar,	1		75		7	2	15	100		1	3		2	6	12	112
Statler,			6		1			7		1			1		4	11
Shaws,	1		143		8	2	12	116		3	1	1	2	9	16	182
Thomas,	1		25		3			29	1				1	1	3	32
Total,	12		719	18	60	13	32	854	3	15	7	1	18	31	77	931
Gooseberry,	1		15		3			19		1	1		1	2	5	24
*Continental No. 1,																
*Continental No. 2,																
*Continental No. 3,																
*Footdale,																
*Leckrone,																
*Buffington,																
*Gates,																
*Edenborn,																
*Lambert,																

*In course of construction.

Recapitulation.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	Grand total inside and outside.
H. C. Frick Coke Co.	14	23	1,482	92	200	37	100	1,946	14	53	64	.....	26	1,460	1,617	3,563
McClure Coke Co.	4	4	251	.....	36	6	43	342	2	2	9	.....	3	202	220	562
Pittsburgh Coal Co.	4	4	279	9	29	4	4	325	.....	2	9	.....	5	18	39	364
W. J. Rainey.	3	3	248	12	46	9	17	444	3	11	13	1	23	410	461	905
Cambria Steel Co.	3	3	260	37	37	.....	24	364	3	10	13	.....	3	213	242	606
Washington Coal and Coke Co.	4	4	190	21	48	1	22	289	6	2	13	.....	5	163	196	485
Oliver and Snyder Steel Co.	3	4	305	1	31	1	61	412	1	20	7	.....	4	215	247	659
Individual collieries in Fayette Co.	17	6	872	41	80	9	34	1,017	10	33	28	.....	25	533	621	1,638
Merchants' Coal Co.	.....	.....	126	17	33	3	.....	180	.....	3	3	.....	.....	11	19	199
W. T. Rainey.	.....	.....	23	.....	.....	.....	.....	27	.....	.....	.....	.....	1	4	5	32
W. D. Allbouse & Co.	.....	.....	71	6	.....	.....	.....	77	.....	1	5	.....	.....	5	16	86
Fairview Coal Co.	.....	.....	62	.....	1	1	3	75	.....	.....	.....	.....	3	8	13	88
Individual collieries in Somerset Co.	13	.....	719	18	60	13	32	854	5	15	7	1	18	31	77	931
Individual collieries in Bedford Co.	1	.....	15	.....	3	.....	.....	19	.....	1	1	.....	1	2	5	24
Grand total.	74	54	5,233	258	622	81	340	6,662	44	170	172	2	121	3,277	3,786	10,448

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Kyle,	22	22	25	24	24	23	25	27	26	24	26	25	295
Leith,	20	20	22	22	24	22	25	26	21	26	26	25	281
Leisenring No. 1,	23	20	23	25	27	24	25	26	24	24	26	25	292
Leisenring No. 2,	22	23	25	25	24	23	25	27	26	25	26	25	296
Leisenring No. 3,	23	24	26	25	26	25	26	27	25	25	26	25	303
Oliphant,	23	23	25	24	23	24	25	27	24	24	26	25	293
Redstone,	23	21	23	23	25	23	24	27	25	26	26	25	292
Trotter,	22	20	22	23	23	22	24	26	23	25	26	25	281
Wynn,	23	23	26	24	23	24	25	27	26	26	26	25	298
Youngstown,	24	23	25	25	27	25	25	26	22	25	26	25	298
Average,	22.7	21.9	24.2	24	24.6	23.7	24.9	26.6	24.2	25	26	25	293
Lemont No. 1,	23	22	25	25	26	24	25	27	26	26	26	25	300
Lemont No. 2,	23	22	24	25	25	22	25	27	24	25	26	24	292
Average,	23	22	24.5	25	25.5	23	25	27	25	25.5	26	24.5	296
Smock,	20	23	20	18	26	22	26	20	23	22	19	21	260
Hurst,	20	16	26	24	23	25	23	22	24	25	23	24	275
Eleanor,	25	23	26	18	21	21	24	22	20	23	19	21	263
Grindstone,	21	19	19	21	22	24	18	24	24	19	15	21	250
Hanna,	24	21	23	18	20	21	23	20	19	21	23	22	255
Average,	22	20.4	22.8	20.4	22.4	22.4	22.8	21.6	22	22	19.8	21.8	264

TABLE III—Continued.

Names of Collieries.	Number of days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Paul,	26	24	26	25	25	26	24	27	26	25	26	25	305
Elm Grove,	26	26	26	25	25	26	24	27	26	25	26	25	306
Mt. Braddock,	24	24	25	24	23	25	24	26	26	24	25	24	294
Revere,													
Average,	25.33	24	25.67	24.67	24.33	25.67	24	26.67	26	24.67	25.67	24.67	301
Morrell,	26	24	27	25	27	26	25	27	26	26	26	25	310
Mahoning-Atlas,	26	24	27	25	11	21	25	27	26	26	26	25	289
Wheeler,	26	24	27	25	27	26	25	27	26	26	26	25	310
Average,	26	24	27	25	21.67	24.33	25	27	26	26	26	25	303
Washington No. 1,	26	24	27	25	26	25	25	27	26	26	26	25	308
Washington No. 2,	26	24	27	25	26	25	25	27	26	26	26	25	308
Average,	26	24	27	25	26	25	25	27	26	26	26	25	308
Oliver No. 1,	26	24	27	25	25	26	25	26	26	26	25	25	306
Oliver No. 2,	26	24	27	25	26	26	25	26	26	26	25	26	307
Average,	26	24	27	25	25.50	26	25	26	26	26	25	25	306

Acme,										26	26	26	78
Bourne,									16	24	24	24	88
Bessie,	26	24	26	26	26	26	24	27	26	26	25	22	304
Connellsville No. 1,	26	21	27	21	26	25	15	22	23	24	25	25	280
Crossland,	26	23	27	25	27	26	25	26	26	26	26	25	308
Chester,	22	20	22	20	26	24	25	27	24	21	25	24	280
Cheat Haven,	20	20	20	20	20	20	24	26	26	26	26	24	272
Clarissa,	26	24	27	25	26	25	25	27	26	26	26	25	398
Fergusan,	23	15	25	25	26	21	24	27	26	26	24	25	287
Juniata,	23	22	24	25	27	25	25	22	21	26	26	25	291
*Lincoln,													
Mt. Hope,	24	17	27	24	24	22	25	27	26	26	26	25	293
Nellie,	26	24	27	25	27	26	25	27	26	26	26	25	310
Percy,	24	24	23	25	26	26	24	24	24	25	26	25	296
Stewart,	20	22	25	23	19	21	22	18	25	24	23		242
Rocks,	26	24	27	25	27	26	25	27	26	26	26	25	310
Snider,			24	16	12	11	10	10	19	21	24	24	177
Sumner,		5	27	25	17	23	25	25	25	26	24	19	241
Smithfield,	22	23	22	21	25	25	22	25	26	24	26	26	287
Total individual collieries,													4,652
Merchants' No. 1,			15	23	22	12	22	24	20	16	18	22	194
Merchants' No. 2,	18	22	21	22	23	12	24	25	22	23	23	22	258
Merchants' No. 3,													
Totals,	18	22	18	23	22.50	12	23	24.50	21	19.50	20.50	22	226
Standard No. 1,	17	18	21	18	8				18	18	18	18	154
Standard No. 2,									18	18	18	18	72
Totals,	17	18	21	18	8				18	18	18	18	113
Ponfeigh,				4	20	23	23	14	22	15	16	14	151
Allegheny,											23	23	46
Totals,				4	20	23	23	14	22	15	19.50	18.50	99
Fairview,	20	15	25	22	24	13	21	21	16	22	22	24	246
Tub Mill Run,	20	15	20	19	20	5	22	25	21	23	21	24	236
Total,	20	15	22.50	20.50	22	9	21.50	23	18.50	22	21.50	24	241

TABLE III –Continued.

Names of Collieries.	Number of days Worked Each Month												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Berlin	26	24	26	25	26	15	.....	.....	15	15	11	10	193
Casselman	26	24	27	25	27	26	26	27	26	26	26	26	312
Chapman	20	19	21	22	18	4	26	25	20	21	22	22	240
Cumberland	24	22	27	24	26	19	25	26	26	26	25	24	294
Enterprise	.....	.....	.....	.....	4	20	15	26	22	19	12	17	135
Edna	21	25	18	12	11	8	10	12	12	25	25	25	204
Garman	14	12	12	6	.....	.....	.....	.....	.....	12	15	13	84
Grassy Run	19	15	23	20	21	12	23	25	19	20	23	22	242
Glen McLaran	.....	.....	.....	.....	.....	.....	.....	3	20	20	13	15	80
Hamilton	16	11	23	21	20	2	20	22	17	18	17	18	205
Lottie	.....	.....	.....	.....	.....	.....	.....	.....	.....	13	19	14	46
Milford	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	200
Pen-Mar	20	17	18	20	23	24	21	16	17	19	22	24	241
Statler	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20	20
Shaws	23	20	23	23	25	13	23	27	24	26	24	25	276
Thomas	23	22	26	25	25	23	23	26	25	26	24	25	293
Total	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3,065
Gooseberry	25	23	26	25	24	26	24	26	25	25	24	23	296
*Continental No. 1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Continental No. 2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
*Continental No. 3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

*Footdale,													
*Leckrone,													
*Buffington,													
*Gates,													
*Edenborn,													
*Lambert,													

*In course of construction.

Recapitulation.

H. C. Frick Coke Co.,	21.9	21.9	24.2	24	24.6	23.7	24.9	26.6	24.2	25	25	25	2,928
McClure Coke Co.,	23	22	24.5	25	25.5	23	25	27	25	25.5	26	24.5	592
Pittsburgh Coal Co.,	22	20.4	22.8	20.4	22.4	22.4	22.8	21.6	22	22	19.8	21.8	1,303
W. J. Rainey,	25.33	24	25.67	24.33	24.33	25.67	24	26.67	26	24.67	25.67	24.67	904
Cambria Steel Co.,	26	24	27	25	21.67	24.33	25	27	26	26	26	25	909
Washington Coal and Coke Co.,	26	24	27	25	26	25	25	27	26	26	26	25	616
Oliver and Snyder Steel Co.,	26	24	27	25	25.50	26	25	26	26	26	25	25	613
Individual collieries in Fayette Co.,													4,652
Merchants' Coal Co.,	18	22	18	23	22.50	12	23	24.5	21	19.5	20.5	22	452
W. T. Rainey,	17	18	21	18	8				18	18	18	18	220
W. D. Althouse & Co.,				4	20	23	23	14	22	15	19.5	18.5	19
Fairview Coal Co.,	20	15	22.50	20.50	22	9	21.50	23	18.5	23	21.5	24	482
Individual collieries in Somerset Co.,													3,065
Individual collieries in Bedford Co.,	25	23	26	25	24	26	24	26	25	25	24	23	296
Grand total,													17,235

TABLE IV—List of fatal accidents that occurred in and about the mines of the Fifth Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Feb. 9,	Jacob Green, ...	Stable boss, ...	41	M.	1	3	Leisenring No. 1, ...	Fayette.....	Was killed by falling down the hoisting shaft. The morning was very cold and the air coming up the shaft being warmer than the air outside, condensed and made clouds of steam. The deceased being unable to see the cage at landing on account of the steam, opened the wrong gate and stepped into the shaft instead of on to the cage as he expected.
Mar. 30,	Lewis Kongil, ...	Miner, ...	28	S.	....	....	Nellie, ...	Fayette,.....	Had drawn out all his posts except one. He went back to cut this post to let the roof fall, and while cutting the post the roof fell upon him, killing him instantly. No person but himself was to blame for his death.
April 10,	Charles Johnson, ...	Miner, ...	22	S.	....	....	Grindstone, ...	Fayette,.....	Was drawing out some slate posts to let the slate fall when the jarring of knocking out the posts caused some loose slate between the posts to fall on him. He was killed almost instantly
12,	Andy Zokovic, ...	Miner, ...	39	M.	1	7	Lemont No. 2, ...	Fayette,.....	Killed by a fall of roof coal and slate. He was mining out a stump of coal to load his last wagon when the roof gave way coming over the timbers and props and covering up the wagon. His son who was working with him had barely time to get out. The father could not get past the wagon, and was covered by the falling slate and instantly killed.

	21,	Chas. Abraham,	Slope cleaner,	22	S.	....	....	Mt. Braddock,	Fayette,	Was in a shelter hole on the slope to allow the empty trip to pass him. When the front part of the trip reached where he was standing, a truck loaded with wooden rails on the front of the trip left the track and the ends of the rails caught him and broke both legs below the knee. He was taken to the hospital and died from the effects of his injuries in about ten days.
	22,	Thomas Ross,	Miner,	21	S.	....	....	Grindstone,	Fayette,	Killed by a fall of slate. He was holding a light for his butty John Sher to draw out the slate posts, and while Sher was knocking out the posts Ross stepped into the face of rib, when some slate fell out between the posts and injured him so that he died almost instantly.
	27,	Martin Adamcheck,	Miner,	40	M.	1	....	Leisenring No. 3,	Fayette,	Was working in a rib and neglected to set up sufficient props to protect himself. He was loading a car with coal when a large quantity of roof and slate fell on him, breaking his neck.
June	20,	Frank Bucarat,	Miner,	44	M.	1	3	Lemont No. 2,	Fayette,	Was instantly killed by being run over by cars. He was up on tipple for his checks, and while coming back down he stepped off one track to avoid a loaded trip of cars and stepped right in front of the empty trip. He was struck on the head and concussion of the brain caused death.
July	..,	Joseph Horrasia,	Miner,	21	S.	....	....	Oliver No. 2,	Fayette,	Killed by fall of roof coal and slate. He had not put in a sufficient number of props to secure his place. Instead of taking extra precautions there was not a single post inside the clay-vein, with the result that as he kept digging in the face the space became greater between the face and clay-vein until it would no longer stand unsupported and fell, killing him instantly. He had been told by mine foreman to set up props, but did not do so.
	24,	Steve Sklevar,	Miner,	47	M.	1	....	Grindstone,	Fayette,	On July 24, about 7 o'clock in the morning an explosion of gas took place in this mine, whereby five men were killed and two very severely burned, a full account of which is given elsewhere.
	24,	John Yankora,	Miner,	17	S.	....	....	Grindstone,	Fayette,	
	24,	Lucas Szaszfay,	Miner,	38	M.	1	1	Grindstone,	Fayette,	
	24,	George Hutneck,	Miner,	34	M.	1	2	Grindstone,	Fayette,	
	24,	Mike Mikealek,	Miner,	31	M.	1	....	Grindstone,	Fayette,	
Aug.	14,	Frank Rosenaker,	Miner,	25	S.	....	....	Wheeler,	Fayette,	Killed by a fall of slate in his working place. He was told by the mine foreman to put up a post, but put off doing so until he should first load a wagon of coal. While loading the wagon the roof fell on him.

TABLE IV—Continued.

Date of accident.	Names of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Aug. 26,	Fred. Gesky, ...	Miner, ...	43	M.	1	6	Leith, ...	Fayette,.....	This man had finished his days work, and was drawing out posts preparatory to making a rib fall. He had drawn out all but one of the posts (which he had left back in the gob to steady the roof while he was taking out the others). The roof did not fall when he got the posts out, and in order to make it fall he determined to go back and knock out the post. While doing so the roof came down and covered him.
Sept. 2,	Richard Rowley, Sr , ...	Mine foreman, ...	57	M.	W.	9	Juniata, ...	Fayette,.....	Was riding down on a loaded trip on the incline plane. On the empty track the switch had been broken and did not close when the last trip had gone over it. When the empty trip came to that point it took the wrong track and ran into the loaded cars on side track, which were suddenly stopped. The loaded cars on the other track ran on until the momentum of the loaded cars broke the coupling of the rear car (on which the deceased was riding), when the great tension of the rope being suddenly released flew back, throwing deceased against the roof and off the car, which ran over him, breaking his neck and killing him instantly. He was violating the law by riding on the car.
6,	Sim Stah, ...	Miner, ...	38	M	1	3	Oliver No. I, ...	Fayette,.....	Deceased was working in a rib and failed to set up posts to protect himself. While working next the gob, and outside the posts, a piece of slate and coal fell on him, breaking his neck, killing him instantly.

	3,	Joe Rush,	Miner,	46	M	1	5	Youngstown,	Fayette,	Was drawing out posts to make a fall of a rib. He had all the posts but one. He went back to knock out this post and while doing so the roof fell on him killing him instantly.
	29,	William Ostrander,	Miner,	26	S.	....	....	Cheat Haven,	Fayette,	Was working in a rib and while drawing out posts he was caught by a fall of slate, which broke his leg and injured him internally. He was sent to the Cottage Hospital, Connellsville, where he died two weeks afterwards.
Oct.	10,	James A. Jolly,	Miner,	29	M.	1	2	Oliphant,	Fayette,	Was lifting a wagon on the track in his room, a small piece of slate fell out between two slips and caught his head on the rail, fracturing his skull.
	14,	Mike Fabean,	Miner,	42	M	1	4	Oliver No. 1,	Fayette,	With two others were drawing out posts to make a fall. They had got all the posts out but one, which had been left to steady the roof while drawing out the others. As the roof did not fall, the deceased determined to knock out the other post, and against the entreaties and protests of the two others went back into the gob to cut out this post. He had only struck two blows with his axe when the roof fell and covered him.
	19,	Andy Risiner,	Miner,	45	M.	1	5	Leisenring No. 2,	Fayette,	Was killed by fall of roof coal and slate while he was drawing out posts making a rib fall. His back was broken, from which he died in a few days.
Nov.	4,	Martin Fuller,	Miner,	33	S.	....	....	Leith,	Fayette,	Fuller was making a fall and was drawing the posts to leave the roof fall down. He left one in to steady the roof while drawing out the others. He went back to draw out this post when the roof fell, killing him instantly. His butty who was holding the lamp was also caught by the fall and killed. It took several hours to recover their bodies.
	4,	Andy Numic,	Miner,	22	S.	....	....	Leith,	Fayette,	
	7,	Michael Stockage,	Miner,	38	M.	1	3	Juniata,	Fayette,	Went into his brother-in-law's place to load a wagon for him; while loading the wagon some roof coal and slate fell out between the posts and injured him to such an extent that he died two hours after having been taken home.
	25,	John Shultz	Driver,	23	S.	....	....	Elm Grove,	Fayette,	Deceased lost control of his trip of cars which ran into an empty trip, and he was caught between the wagons and injured internally. He died in a few minutes after he was released from the cars. He was a reckless driver and had often been warned against running too fast.

TABLE IV—Continued.

Date of accident.	Names of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Dec. 14,	Joseph Peawa, ...	Miner, ...	24	M.	1	1	Oliver No. 2, ...	Fayette,.....	Was taking down roof on heading and had cut along one side, all but a little spur of coal, and while going through it fell on him and broke his back. He was sent to the hospital and died from the effects of his injuries one month afterwards.
21,	George Fredenek, ...	Miner, ...	32	M.	1	3	Bessie, ...	Fayette,.....	Met his death by being struck with coal from a blast which blew through the rib. He was 130 feet away from his own working place when he was killed. The parallel to the main entry had been left back because of water, and in order to catch up with main entry extra men had been put to work making cutthroughs. The parallel was about holed into one of these cutthroughs, and a shot was being fired, which blew through into the cutthrough where the deceased and his butty were sitting. The coal from shot struck him on the head, fracturing his skull, killing him.

23,	Henry Hager,	Track layer,	45	M.	1	4	Sumner,	Fayette,	Found on top of fall 50 feet from shaft evidently making his way to shaft bottom.
23,	Samuel Meese,	Boss driver,	38	M.	1	4	Sumner,	Fayette,	Found in stable, not mutilated. Burned severely.
23,	Albert Meese,	Trapper,	14	S.	....	....	Sumner,	Fayette,	Found at right hand corner of No. 1 cage. Living when found. Burned all over body.
23,	William Thomas,	Cager,	32	M.	1	4	Sumner,	Fayette,	Found near cage on south side. Evidently having been blown across cage's ways. Top of head, arm and leg blown off.
23,	Peter Orris,	Cager's helper,	33	M.	1	4	Sumner,	Fayette,	Found near cage on south side. Burned and mutilated.
23,	Mike Matsick,	Miner,	22	S.	....	....	Sumner,	Fayette,	Found up main entry near timbers. Badly mutilated and burned.
23,	Andy Yaminski,	Miner,	27	S.	....	....	Sumner,	Fayette,	Found in No. 3 room, 3d butt, left north side. Badly burned. Supposed to have ignited gas in his room, causing explosion.
23,	Paul Samides,	Miner,	31	S.	....	....	Sumner,	Fayette,	Found at bottom of shaft between cages awfully mangled. Both legs and part of head blown off.
23,	Mike Pavolick,	Miner,	32	S.	....	....	Sumner,	Fayette,	Found on parting near shaft bottom. very badly mangled.
23,	Joe Podolenski,	Miner,	27	M.	1	....	Sumner,	Fayette,	Found on No. 1 butt right, near 4th break-through, north side. Burned and otherwise injured.
23,	Mike Rohal,	Miner,	40	M.	1	....	Sumner,	Fayette,	Found on No. 1 butt right north. Burned and very badly mutilated.
23,	John Kuelsik,	Miner,	37	M.	1	2	Sumner,	Fayette,	Found on main entry north 400 feet from shaft. Head crushed and otherwise mangled.
23,	Unknown,	Miner,	....	....	....	....	Sumner,	Fayette,	Found between 5 and 6 rooms on No. 3 entry left north side. Badly burned.
23,	George Vaselko,	Miner,	29	S.	....	....	Sumner,	Fayette,	Found in No. 3 room 2d butt right north side. Burned and cut about head.
23,	Joseph Magger,	Miner,	26	S.	....	....	Sumner,	Fayette,	Found between No. 2 and 3 rooms, 2nd butt right north side. Burned about head and legs.
23,	George Kovash,	Miner,	45	S.	....	....	Sumner,	Fayette,	Found on No. 2 entry right north side. Head mashed and other injuries.
23,	Joseph Budshot,	Miner,	32	S.	....	....	Sumner,	Fayette,	Found near bottom of shaft. Very badly mutilated.
23,	Andy Pavolick,	Miner,	30	S.	....	....	Sumner,	Fayette,	Found near shaft bottom. Slightly burned. Badly mutilated.
23,	Andrew Ruposhee	Miner,	35	M.	1	3	Sumner,	Fayette,	Found in No. 3 room, 2d butt right north. Head crushed and slightly burned.
									These persons were all killed by an explosion of gas which was supposed to have been ignited in No. 3 room on No. 3 butt entry, north side of shaft, by Andy Yaminski, who worked in said room. Full description of accident in another part of report.

TABLE IV—Continued.

Date of accident.	Names of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Dec. 30,	William Grine, ...	Miner, ...	26	M.	1	2	Lottie, ...	Somerset.....	The deceased was undermining coal along side entry to make a side track. He had left sprags of coal in at intervals, and was cutting out one of these when the coal and rock fell on him, killing him almost instantly. He alone was responsible.
30,	Daniel Filetski, ...	Miner, ...	25	M.	1	....	Leisenring No. 1, ...	Fayette.....	Was splitting a rib where the rooms on each side of it had fallen in and the pressure on the rib had opened up the overlying strata and it was cracked in several places. It was well timbered, however, and made secure as far as practicable. Suddenly the roof gave way and came over the timbers and caught deceased before he could get out. It took about 7 hours to recover his body from under the material which fell on him. This seems to have been an unavoidable accident.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Fifth Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 2,	James Moore,	Trackman,	21	S.	Leisenring No. 1,	Fayette,	Chest and lungs injured, caused by car jumping track and squeezing him be-car and rib.
27,	Thomas Mulnix,	Stable boss,	65	M.	Juniata,	Fayette,	Leg broken. Kicked by a mule.
29,	John Britt,	Driver,	35	M.	Leisenring No. 1,	Fayette,	Squeezed about hips. Car left track and caught him between rib.
Feb. 15,	John Carrol,	Miner,	56	M.	Leisenring No. 1,	Fayette,	Hand injured. While lifting car on track the bumper of car caught his hand on the rail and crushed it.
22,	Charles Tolt,	Miner,	29	M.	Grindstone,	Fayette,	These two men were burned about face, hands, arms and breast by a premature explosion of gunpowder in a drill hole.
22,	Jacob Bucker,	Miner,	36	M.	Grindstone,	Fayette,	
Mar. 1,	Riley Martin,	Miner,	27	M.	Stewart,	Fayette,	Head and face cut and ankle sprained by having been caught between car and rib. His butty let the car run down the room, when Martin tried to catch it to prevent it from running away, but was hurt in the attempt.
3,	C. B. Wilson,	Hauler,	24	M.	Mt. Braddock,	Fayette,	Kicked by a mule.
4,	George Cope,	Driver,	35	M.	Stewart,	Fayette,	Bruised across hips. While spragging a car it left the track and he was caught between it and the rib.
7,	Steve Alshopka,	Miner,	23	M.	Leisenring No. 1,	Fayette,	Left leg fractured. Fall of roof coal and slate in his working place, through negligence in not setting up posts to secure the roof.
15,	Andrew Cornick,	Driver,	28	M.	Paul,	Fayette,	Right leg and two ribs broken. Was trying to jump on front of loaded car and missed his footing and fell in front of car.
16,	Perry Tate,	Miner,	33	M.	Wynn,	Fayette,	Hurt across back. Struck by fall of roof coal and slate in his room.

TABLE V—Continued.

Date of accident.		Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Mar	22.	George Franks,	Miner,	23	M.	Juniata,	Fayette,	Collar bone and three ribs broken. Caught between post and wagon while it was coming out of his room.
	29.	Patrick McIntyre,	Miner,	25	S.	Leisenring No. 1,	Fayette,	Cut on face, hands and side bruised and lacerated. He fell into the shaft and fell against the rope, which he caught and held on to, sliding down it to the bottom. He had a most miraculous escape from death.
	30.	Thomas Lee,	Miner,	33	S.	Trotter,	Fayette,	Two small bones in foot broken: fall of slate.
April	1.	William Hawn,	Miner,	55	M.	Hocking,	Somerset,	Two ribs broken; fall of coal.
	3.	John Greglak,	Miner,	20	S.	Trotter,	Fayette,	Bone of leg splintered. Empty car caught him between rib, and wagon wheel ran over his leg.
	25.	George Melisky,	Miner,	40	M.	Paul,	Fayette,	Right leg broken. A piece of slate fell off the side of working place on his leg.
	26.	Frederick Wise,	Miner,	56	M.	Merchants No. 2,	Somerset,	Leg broken above knee; fall of coal.
May	1.	Frank Monoghan,	Miner,	19	S.	Morrell,	Fayette,	Broken leg; fall of slate.
	4.	Frank Livengood,	Machine scraper,	25	M.	Merchants No. 1,	Somerset,	Arm injured by machine.
	6.	Ernest Reiber,	Machine runner,	33	M.	Merchants No. 1,	Somerset,	Both legs severely bruised. Machine broke loose from its fastening and machine bar fell on his leg.
	11.	James Malloy,	Track boss,	35	M.	Leisenring No. 1,	Fayette,	Ankle broken. While pushing loaded car on cage his foot was caught between timber of cage and bumper of car.
	31.	John McSloy,	Mine laborer,	45	M.	Trotter,	Fayette,	Heel crushed and bruised. Foot caught by cage at bottom of shaft.
	31.	George Johnson,	Shot firer,	40	M.	Grindstone,	Fayette,	Arm broken and shattered by explosion of powder.
June	2.	George Retka,	Miner,			Smock,	Fayette,	Broken leg; fall of slate in working place.
	7.	Conrad Smith,	Miner,	40	S.	Grindstone,	Fayette,	Hurt on back; fall of slate in working place.

	12,	William Ambrose,	Driver,	19	S.	Nellie,	Fayette,	Squeezed about body. Caught between wagon and rib.
	14,	Joseph Robertell,	Miner,	40	....	Nellie,	Fayette,	Body and legs bruised. Caught between cars.
	20,	John Gordon,	Driver,	31	M.	Lemont No. 2,	Fayette,	Foot badly crushed; car ran over it.
	20,	William McDade,	Driver,	29	M.	Lemont No. 1,	Fayette,	Leg broken; caught between cars.
	21,	Mike Brinsa,	Miner,	18	S.	Mahoning-Atlas,	Fayette,	Arm and leg broken; fall of slate in working place.
	21,	Frank Roemo,	Miner,	27	S.	Mahoning-Atlas,	Fayette,	Injured; fall of slate in working place.
	29,	Matthew Fair,	Motorman,	34	M.	Merchants' No. 2,	Somerset,	Right leg broken. Motor ran off down grade; He jumped off to turn switch to prevent motor running over tipple) and fell, breaking his leg in two places.
July	3,	William Brown,	Miner,	13	S.	Merchants' No. 1,	Somerset,	Foot hurt, one toe taken off. Caught in the machinery of mining machine.
	3,	Peter Conley,	Miner,	55	M.	Merchants' No. 1,	Somerset,	Leg broken and breast crushed; fall of coal.
	8,	Joseph Billock,	Miner,	31	M.	Lemont No. 2,	Fayette,	Right leg broken above knee; fall of top coal and slate.
	24,	Mike Orbin,	Miner,	34	M.	Grindstone,	Fayette,	Burned about head and body. These brothers were working in Grindstone mine when an explosion of gas occurred in No. 10 entry, killing five men and burning these two men severely.
	24,	Mathias Orbin,	Miner,	32	M.	Grindstone,	Fayette,	
	26,	Chas. Watson,	Driver,	28	M.	Nellie,	Fayette,	Body and legs bruised. Mule kicked his light out, and the wagons caught him.
Aug.	18,	John Fibain,	Miner,	27	S.	Leisenring No. 1,	Fayette,	Hip dislocated. While knocking out post; coal and slate fell on him.
	18,	August Kurtz,	Miner,	43	M.	Trotter,	Fayette,	Compound fracture of left leg, bruised about head and back; top coal fell on him.
	18,	Mike Sapurnack,	Miner,	30	M.	Trotter,	Fayette,	Left leg broken and hip bruised; slate fell on him.
	23,	Carrie Ford,	Miner,	20	M.	Leith,	Fayette,	Head cut and body bruised; fall of coal.
	30,	John Bogoski,	Miner,	40	S.	Grindstone,	Fayette,	Leg broken; piece of slate fell on him.
Sept.	4,	Antony Dzivileski,	Miner,	30	S.	Grindstone,	Fayette,	Thigh broken; fall of slate.
	9,	Thomas Chittie,	Miner,	29	M.	Youngstown,	Fayette,	Hurt across hips and back; fall of slate.
	20,	John Zymoas,	Driver,	24	S.	Nellie,	Fayette,	Foot hurt by mine wagon.
	23,	Bartol Catney,	Driver,	20	S.	Oliver No. 2,	Fayette,	Broken arm; cars collided and squeezed him between cars and rib.
Oct.	4,	Martin Matchrock,	Miner,	38	M.	Leisenring No. 2,	Fayette,	Fracture of right knee joint; fall of slate.
	14,	Uriah Roebuck,	Rope rider,	20	S.	Glen McLaran,	Somerset,	Both bones in ankle broken; main haulage rope struck him on leg.
	19,	Andrew Merlick,	Miner,	32	M.	Sumner,	Fayette,	Eyesight, head and breast injured; charge of gunpowder exploded while he was tamping.
	21,	Bosina Memcheek,	Miner,	38	M.	Leisenring No. 3,	Fayette,	Ruptured and contusion of side; fall of slate.
	23,	Joseph Chominco,	Driver,	28	M.	Nellie,	Fayette,	One finger on right hand cut off; fell on rail and wagon ran over his hand.
	24,	Andrew Livencloski,	Miner,	27	S.	Ferguson,	Fayette,	Face and back injured by fall of draw slate.
Nov.	16,	William Truman,	Machine cutter,	25	S.	Glen McLaran,	Somerset,	Back injured slightly by fall of slate.
	22,	John Ball,	Miner,	50	M	Elm Grove,	Fayette,	Body crushed and arm cut; fall of coal.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Nov. 24.	Henry Sailor,	Machine scraper,	27	M.	Glen McLaran,	Somerset,	Knee injured by fall of coal.
Dec. 4.	Joshua Taylor,	Roadman,	45	M.	Leisenring No. 2,	Fayette,	Left leg broken above ankle; haulage rope struck him.
5.	Charles Rankin,	Driver,	35	M.	Crossland,	Fayette,	Bruised about the body and head; wagon ran over him.
8.	R. E. Harding,	Machine scraper,	25	M.	Glen McLaran,	Somerset,	Slight fracture of bones of ankle. Riding on cars of rope haulage trip (against rules) and fell in jumping off.
11.	John Shimco,	Driver,	29	M.	Elm Grove,	Fayette,	Breast crushed and fingers badly mashed; fell in front of loaded cars.
11.	William Rimmel,	Driver,	27	M.	Nellie,	Fayette,	Foot hurt; fell in front of cars.
16.	Andrew Bokser,	Miner,	26	M.	Lemont No. 2,	Fayette,	Head and arm cut; fall of roof.
21.	Joseph Gimpley,	Miner,	32	M.	Bessie,	Fayette,	Flesh wound on head and slightly bruised on back; struck by coal from a shot blown through the pillar.
22.	Jacob Sherosky,	Miner,	16	S.	Eleanora,	Fayette,	Scalp wounded; fall of slate.
23.	John Skoff,	Miner,	37	S.	Sumner,	Fayette,	These three persons were burned very severely about the head, face, breast and hands, by an explosion of gas in Sumner mine. The miner in No. 1 left entry, south side. The drivers in the stable.
23.	Jonas Meese,	Driver,	23	M.	Sumner,	Fayette,	
23.	Harry Atwood,	Driver,	22	S.	Sumner,	Fayette,	
26.	John McVay,	Miner,	22	S.	Oliver No. 1,	Fayette,	Collar bone broken; squeezed between mine car and rib.

Sixth Bituminous District.

CAMBRIA, SOMERSET AND INDIANA COUNTIES.

Johnstown, Pa., March 3, 1900.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: I have the honor of presenting herewith my report as Inspector of Mines for the Sixth Bituminous district for the year ending December 31, 1899.

The report contains the usual tables required by the Bureau of Mines, with some additional ones, which are intended to give in compact form, information relative to the production, etc., of the mines, and of the accidents. I have adopted the same plan of brevity in my remarks as to the general condition of the workings throughout the district, which has at present 104 collieries. The report shows that 8,594,067 tons of coal were mined for the year, an increase over the production of 1898 of 1,432,734 tons. The number of employes was 11,611, an increase of 1,123 over that of 1898. The activity looking to improved systems of mining which has been so conspicuous in this district during the past few years was not so marked during the past twelve month, owing, no doubt, to the unusual demand for coal, which allowed less time in which to make improvements. I hope that this demand will continue during 1900, but that nevertheless I may be able to report many changes for the better a year hence, in order that the reputation of the district may not suffer, and that all the mines may be in line with the best in this particular.

Very respectfully,

J. T. EVANS,
Inspector.

Statistical Table.

Number of mines in the district,	109
New mines, not reported for 1899,	5
Number of mines in operation during year,	104
Number of tons of coal produced,	8,594,067
Number of tons shipped,	8,032,449
Number of tons used for steam at mines,	96,756
Number of tons sold to employes,	37,234

Number of coke ovens,	484
Number of tons of coke produced,	267,787
Number of persons employed inside the mines,	10,531
Number of persons employed outside the mines,	1,080
Number of fatal accidents,	28
Number of tons of coal produced per fatal accident,	306,931
Number of non-fatal accidents,	33
Number of tons of coal produced per non-fatal accident,	260,426
Number of persons employed per fatal accident,	414
Number of persons employed per non-fatal accident,	352
Number of wives made widows by accidents,	14
Number of children left orphans by accidents,	35
Number of kegs of powder used,	46,468
Number of pounds of dynamite used,	67,379
Number of cylindrical boilers in use,	54
Number of tubular boilers in use,	102
Number of steam locomotives in use,	4
Number of air locomotives in use,	2
Number of electric locomotives in use,	38
Number of new mines opened,	14
Number of old mines resumed,	10
Number of mines abandoned,	4

TABLE—Showing Production of Coal, number of Persons Employed by each Company, number of Fatal and Non-fatal Accidents and number of Tons Produced for each Accident.

Names of Companies.	Number of tons produced.	Number of persons employed.	Number of fatal accidents.	Number of tons of coal produced per life lost.	Number of non-fatal accidents.	Number of tons of coal produced per non-fatal accident.
Berwind White Coal Mining Co.,	1,830,908	2,462	7	261,558	13	140,839
Barnes & Lueker,	276,870	341	2	138,435	4	69,217
Mitchell Coal and Coke Co.,	505,156	724	.....	505,156	.....	505,156
Patton Coal Co.,	419,866	504	1	419,866	3	139,955
Duncan & Spangler,	250,036	301	.....	250,036	.....	250,036
Cambria Steel Co.,	600,236	689	4	150,059	7	85,748
Puritan Coal Co.,	214,831	310	2	107,415	3	71,610
Frugality Coal Co.,	147,328	275	.....	147,328	.....	147,328
Coulter & Huff,	221,287	309	3	73,762	4	55,321
John C. Scott & Sons,	394,988	528	2	197,494	3	131,662
Allport Coal Co.,	182,446	195	.....	182,446	1	182,446
Stineman Coal and Coke Co.,	356,444	426	.....	356,444	9	39,604
W. H. Piper & Co.,	241,185	287	.....	241,185	.....	241,185
Pardee Colliery Co.,	301,984	327	2	150,992	2	150,992
Vintondale Colliery Co.,	134,188	197	.....	134,188	.....	134,188
George Pearce & Sons,	24,258	48	.....	24,258	.....	24,258
Aurora Coal Co.,	29,933	54	.....	29,933	.....	29,933
Adams Coal Co.,	12,083	27	.....	12,083	.....	12,083
C. A. Buck,	29,741	57	.....	29,741	.....	29,741
Knight & Co.,	17,012	28	.....	17,012	.....	17,012
Blacklick Mining Co.,	103,360	125	.....	103,360	.....	103,360
J. Leahy & D. Laughman,	40,345	74	.....	40,345	.....	40,345
Bethel Coal Co.,	20,000	24	.....	20,000	.....	20,000
M. Bracken Coal Co.,	23,793	42	.....	23,793	.....	23,793
G. L. Whitehead & Co.,	21,300	26	.....	21,300	.....	21,300
Cymbria Coal Co.,	95,698	100	1	95,698	1	95,698
Cresson Coal and Coke Co.,	56,763	77	1	56,763	1	56,763
B. B. Holt & J. G. Platt,	5,000	26	.....	5,000	.....	5,000
Mountain Coal Co.,	17,598	32	.....	17,598	.....	17,598
D. Laughman & Co.,	108,332	175	.....	108,332	.....	108,332
Elinora Coal Co.,	90,558	143	.....	90,558	.....	90,558
East Branch Coal Co.,	24,687	39	.....	24,687	.....	24,687
Empire Coal Co.,	167,078	200	.....	167,078	1	167,078
Hopper & Co.,	25,800	42	.....	25,800	.....	25,800
Taylor & McCoy Coal and Coke Co.,	203,905	377	.....	203,905	.....	203,905
Taylor Brothers,	56,257	63	.....	56,257	.....	56,257
A. J. Haws & Sons, Ltd.,	33,778	55	.....	33,778	.....	33,778
Henrietta Coal Mining Co.,	197,523	218	.....	197,523	.....	197,523
Baltzel Coal Co.,	26,050	56	.....	26,050	.....	26,050
Lorain Steel Co.,	33,911	40	.....	33,911	.....	33,911
Listie Mining and Manufacturing Co.,	152,232	152	.....	152,232	1	152,232
C. A. Hughes & Co.,	41,521	79	.....	41,521	.....	41,521
Lloydell Coal Co.,	38,125	51	.....	38,125	.....	38,125
E. P. McCormick,	19,748	29	1	19,748	1	19,748
Dunwiddie H. F. Hirsh,	45,117	92	.....	45,117	.....	45,117
James Campble & Co.,	29,356	45	.....	29,356	.....	29,356
Penn. Bit. Coal Co.	67,079	121	.....	67,079	.....	67,079
E. W. Mentzer,	45,468	67	.....	45,468	.....	45,468
Merrjsdale Coal Co.,	39,453	71	.....	39,453	.....	39,453
C. A. & R. J. Hughes,	33,505	44	.....	33,505	.....	33,505
Loyalhanna Coal and Coke Co.,	195,428	202	1	195,428	2	97,714
Sonman Shaft Coal Co.,	6,171	52	.....	6,171	.....	6,171
Derringer Brothers,	40,076	49	.....	40,076	.....	40,076
Somerset Coal Co.,	9,309	19	.....	9,309	.....	9,309
Stony Creek Coal Co.,	12,788	22	.....	12,788	.....	12,788
South Fork Coal Mining Co.,	52,909	82	.....	52,909	.....	52,909
J. E. Smittle & Co.,	4,510	11	.....	4,510	.....	4,510
Clearfield Bituminous Coal Co.,	92,447	200	.....	92,447	4	23,111
Wellscreek Coal Co.,	9,146	22	1	9,146	1	9,146
Wallms Run Coal Co.,	37,031	49	.....	37,031	.....	37,031
Brubaker Coal Co.,	6,908	18	.....	6,908	.....	6,908
Cambria Coal Mining Co.,	.....	.....	.....	.....	.....	.....
Totals,	8,594,067	11,611	28	306,931	33	260,426

Classification of Accidents.

	Fatal.	Non-fatal.	Total.
Falls of coal,	7	6	13
Falls of slate,			
Falls of roof,	6	2	8
By cars,	7	7	14
By explosion of gas,	2	2	4
By electric shocks,	4		4
By premature blasts,			
By powder explosions,		13	13
By dynamite explosions,	2		2
By mining machines,		1	1
By machinery in general,		2	2
Total,	28	33	61

Occupations of Persons Killed or Injured.

	Fatal.	Non-fatal.	Total Injured.
Miners,	20	25	45
Loaders,	4	1	5
Rockmen,	1		1
Trackmen,	1		1
Machine cutters,	1	1	2
Brakemen on motors,		3	3
Scrapers,		2	2
Drivers,		1	1
Trappers,	1		1
Total,	28	33	61

Nationalities of Persons Killed or Injured.

	Fatal.	Non-fatal.	Total Injured.
Americans,	9	17	26
Italians,	1		1
Slavs,	4	7	11
Poles,	3	2	5
Hungarians,	1		1
Austrians,	2	2	4
English,	3	4	7
Germans,	3		3
French,	1	1	2
Irish,	1		1
Total,	28	33	61

Showing the Number Injured each Month, Fatally and Non-fatally.

	Fatal.	Non-fatal.	Total.
January,	4	.....	4
February,	1	4	5
March,	2	4	6
April,	.....	.....	.....
May,	1	.....	1
June,	4	3	7
July,	2	7	9
August,	1	1	2
September,	3	10	13
October,	2	1	3
November,	6	1	7
December,	2	2	4
Total,	28	33	61

TABLE—Giving name of mine, method of haulage and ventilation, whether drift, slope or shaft, whether mining is done by pick or machine, type of machine, seam of coal worked in each mine, and quantity of coal mined respectively by pick and machine.

Name of Colliery.	System of Haulage.	System of Ventilation.	Kind of Opening.
Berwind White Coal Mining Co.			
Eureka No. 30,	Electric motors,	Fan,	Drift.
Eureka No. 31,	Electric motors,	Fan,	Drift.
Eureka No. 32,	Electric motors,	Fan,	Drift.
Eureka No. 33,	Electric motors,	Fan,	Drift.
Eureka No. 34,	Electric motors,	Fan,	Drift.
Eureka No. 35,	Electric motors,	Fan,	Drift.
Eureka No. 36	Electric motors,	Fan,	Drift.
Eureka No. 37,	Electric motors,	Fan,	Drift.
Yellow Run shaft,	Rope and mules,	Fan,	Shaft.
Barnes & Lucker.			
Lancashire No. 3,	Rope and mules,	Furnace,	Drift.
Lancashire No. 4,	Rope and mules,	Furnace,	Drift.
Lancashire No. 6,	Electric motor,	Furnace,	Drift.
Lancashire No. 7,	Mules,	Furnace,	Drift.
Juniata,	Mules,	Furnace,	Drift.
Mitchel Coal and Coke Co.			
Gallitzin slope,	Electric motor,	Fan,	Slope.
Columbia No. 4,	Mules,	Furnace,	Drift.
Columbia No. 6,	Mules,	Fan,	Drift.
Columbia No. 7,	Rope,	Fan,	Slope.
Hastings No. 1,	Electric motor,	Fan,	Drift.
Hastings No. 2,	Mules,	Fan,	Slope.
Patton Coal Co.			
Columbia No. 1,	Rope haul,	Fan,	Drift.
Ashcroft No. 3,		Furnace,	Drift.
Flanigan Run No. 4,	Electric motors,	Fan,	Drift.
Flanigan Run No. 6,		Fan,	Drift.

Duncan & Spangler.			
Sterling No. 8,	Rope haul,	Fan and furnace,	Slope.
Sterling No. 10,	Mules,	Furnace,	Drift.
Sterling No. 11,		Furnace,	Drift.
Delta,		Furnace,	Drift.
Cambria Steel Co.			
Rolling Mill,	Air locomotive,	Fan,	Drift.
Gautier No. 3,	Mules,	Fan,	Drift.
Franklin,		Furnace,	Drift.
Conemaugh slope,	Rope,	Fan,	Slope.
Puritan Coal Co.			
Puritan No. 1,	Electric motor,	Fan,	Shaft.
Puritan No. 2,	Electric motor,	Fan,	Slope.
Puritan No. 3,	Mules,	Fan,	Drift.
Frugality Coal Co.			
Dean No. 2,	Mules,	Furnace,	Drift.
Dean No. 8,	Mules,	Fan,	Slope.
Dean No. 9,	Mules,	Furnace,	Drift.
Coulter & Huff.			
Argyle,	Rope haul,	Furnace,	Drift.
Conemaugh,	Mules,	Furnace,	Drift.
Kokono,	Mules,	Furnace,	Drift.
John C. Scott & Sons.			
Webster No. 3,	Rope haul,	Fan,	Drift and slope.
Webster No. 6,	Mules,	Fan,	Drift.
Allport Coal Co.			
Allport No. 1,	Mules,	Furnace,	Drift.
Allport No. 2,	Mules,	Furnace,	Drift.
Stineman Coal & Coke Co.			
Stineman No. 1,	Rope haul,	Fan,	Slope.
Stineman No. 2,	Electric motor	Fan,	Drift.
W. H. Piper & Co.			
Somman No. 1,	Rope haul,	Fan,	Drift.
Somman No. 2,	Mules,	Fan,	Drift.
Pardee Collieries Co.			
Pardee No. 3,	Rope haul,	Fan,	Drift.
Pardee No. 4,	Rope haul,	Fan,	Slope.
Vintondale Colliery Co.			
Vinton Nos. 1 and 2,	Electric motor,	Fan,	Drift.
Vinton No. 3,	Rope haul,	Fan,	Drift.
George Pearce & Sons.			
Excelsior,	Mules,	Fan,	Drift.
Calwell,	Mules,	Furnace,	Drift.

TABLE—Giving name of mines, method of haulage and ventilation—Continued.

Name of Colliery.	System of Haulage.	System of Ventilation.	Kind of Opening.
Aurora Coal Co.			
Aurora,	Mules,	Furnace,	Drift.
Adams Coal Co.			
Adams,	Mules,	Furnace,	Drift.
C. A. Buck.			
Alton,	Mules,	Fan,	Drift.
Knight & Co.			
Alpha,	Mules,	Furnace,	Drift.
Blacklick Mine Co.			
Big Bend,	Mules,	Fan,	Drift.
J. Leahy & D. Laughman.			
Bear Rock,	Mules,	Furnace,	Drift.
Bethel Coal Co.			
Bethel,	Mules,	Furnace,	Drift.
M. Bracken Coal Co.			
Black Diamond,	Mules,	Fan,	Drift.
G. L. Whitehead & Co.			
Bell,	Mules,	Furnace,	Drift.
Cymbria Coal Co.			
Cymbria,	Mules,	Fan,	Drift.
Cresson Coal and Coke Co.			
Cresson shaft,	Mules,	Fan,	Shaft.
B. B. Holt & J. G. Platt			
Colonial,	Mules,	Furnace,	Drift.

Mountain Coal Co.			
Dunlo slope,	Mules,	Fan,	Slope.
D. Laughman & Co.			
Dysert,	Rope and mules,	Fan,	Drift and slope.
Elnora Coal Co.			
Elnora Nos. 1 and 2,	Mules,	Furnace,	Drift.
East Branch Coal Co.			
East Branch,	Mules,	Furnace,	Drift.
Empire Coal Co.			
Empire,	Electric motor,	Fan,	Drift.
Hopfer & Co.			
Ebervale,	Mules,	Furnace,	Drift.
Taylor & McCoy Coal and Coke Co.			
Gallitzen shaft,	Rope and mules,	Fan,	Shaft.
Taylor Brothers.			
Glen Helen,	Rope and mules,	Fan,	Slope.
A. J. Haws & Sons, Ltd.			
Haws shaft,	Mules,	Fan,	Shaft.
Henrietta Coal Mining Co.			
Henrietta shaft,	Rope and mules,	Fan,	Shaft.
Baltzel Coal Co.			
Ivy Ridge,	Electric motor,	Fan,	Drift.
Lorain Steel Co.			
Ingleside,	Mules,	Furnace,	Drift.
Listie Mining and Manufacturing Co.			
Krebs,	Electric motor,	Fan,	Drift.
C. A. Hughes & Co.			
Lilly slope,	Mules,	Furnace,	Slope.
Lloydell Coal Co.			
Lloydell,	Mules,	Fan,	Drift.
E. P. McCormick.			
Moshannon,	Mules,	Furnace,	Drift.
Dunwiddie F. & F. Hirsh.			
Nant Y Glo,	Mules,	Fan,	Drift.
James Campble & Co.			
Oak Ridge,	Mules,	Furnace,	Drift.

TABLE—Giving name of mines, method of haulage and ventilation—Continued.

Name of Colliery.	System of Haulage.	System of Ventilation.	Kind of Opening.
Penn. Bit. Coal Co.			
Portage slope,	Mules,	Fan,	Slope.
E. W. Mentzler.			
Plain,	Mules,	Furnace,	Drift.
Morrisdale Coal Co.			
Patton,	Mules,	Furnace,	Drift.
C. A. & R. J. Hughes.			
Standard,	Mules,	Fan,	Drift.
Loyalhanna Coal & Coke Co.			
Sonman shaft No. 1,	Rope haul,	Fan,	Shaft.
Sonman Shaft Coal Co.			
Sonman shaft No. 2,	Electric motor,	Fan,	Shaft.
Derringer Brothers.			
Susquehanna,	Mules,	Furnace,	Drift.
Somerset Coal Co.			
Somerset,	Mules,	Furnace,	Drift.
Stony Creek Coal Co.			
Stony Creek,	Mules,	Furnace,	Drift.
South Fork Coal Mining Co.			
South Fork,	Mules,	Fan,	Slope.
J. E. Smittle & Co.			
Van Ormer,	Mules,	Furnace,	Drift.
Clearfield Bit. Coal Co.			
West Branch,	Electric motor,	Fan,	Drift.

Wells Creek,	Wells Creek Coal Co.	Mules,	Furnace,	Drift.
Walnut Run,	Walnut Run Coal Co.	Mules,	Furnace,	Drift.
Benton,	Brubaker Coal Co.	Mules.	Furnace,	Drift.
Anchor,	Cambria Mining Co.	Mules.	Furnace,	Drift,
Spangler,	Spangler Mining Co.	Mule,	Furnace,	Drift,

TABLE—Giving name of mines, method of haulage and ventilation—Continued.

Name of Colliery.	Method of Mining.	Motive Power Used in Machines.	Seam of Coal Worked.	Approximate quantity of coal mined by machines.	Approximate quantity mined by pick.
Berwind White Coal Mining Co.					
Eureka No. 30	Machines,	Compressed air,	B or Miller seam,	466,233	
Eureka No. 31	Machines,	Compressed air,	B or Miller seam,	435,370	
Eureka No. 32	Machines,	Compressed air,	B or Miller seam,	168,070	
Eureka No. 33	Machines,	Compressed air,	B or Miller seam,	198,295	
Eureka No. 34	Machines,	Compressed air,	B or Miller seam	153,564	
Eureka No. 35	Machines,	Compressed air,	B or Miller seam,	146,636	
Eureka No. 36	Machines,	Compressed air,	B or Miller seam,		
Eureka No. 37	Machines,	Compressed air,	B or Miller seam,	1,236	
Yellow Run shaft	Pick,		B or Miller seam,		261,404
Barnes & Lucker.					
Lancashire No. 1	Pick,		D or Moshannon,		21,576
Lancashire No. 4	Pick,		D or Moshannon,		5,213
Lancashire No. 6	Electric machine,	Electricity,	D or Moshannon,	101,930	
Lancashire No. 7	Electric machine,	Electricity,	D or Moshannon,	128,429	
Juniata	Electric machine,	Electricity,	D or Moshannon,	24,713	
Mitchel Coal and Coke Co.					
Gallitzin slope	Machines,	Electricity,	E or Lemon seam,	289,771	
Columbia No. 4	Pick,		B or Miller,		36,998
Columbia No. 6	Machines,	Compressed air,	B or Miller,	32,471	
Columbia No. 7	Pick,		B or Miller,		
Hastings No. 1	Machine,	Electricity,	D or Moshannon,	96,528	
Hastings No. 2	Pick,		B or Miller,		49,388
Patton Coal Co.					
Columbia No. 1	Machine,	Electricity,	C prime,	133,229	
Ashcroft No. 2	Pick,		C prime,		47,222
Flanigan Run No. 4	Machine,	Electricity,	C prime,	209,370	
Flanigan Run No. 6	Machine,	Electricity,	C prime,	29,845	

Duncan & Spangler.					
Sterling No. 8,	Machine,	Compressed air,	D or Moshannon,	132,675	
Sterling No. 10,	Pick,		B or Miller,		13,421
Sterling No. 11,	Machine,	Compressed air,	D or Moshannon,	24,026	
Delta,	Machine,		D or Moshannon,	79,914	
Cambria Steel Co.					
Rolling Mill,	Machine,	Compressed air,	C or cement,	503,082	
Gautier No. 3,	Pick,		C or cement,		28,318
Franklin,	Pick,		C or cement,		68,836
Conemaugh slope,	Machine,	Compressed air,	E or Lemon,		
Puritan Coal Co.					
Puritan No. 1,	Pick,		B or Miller,		133,857
Puritan No. 2,	Pick,		B or Miller,		26,822
Puritan No. 3,	Pick,		B or Miller,		54,152
Frugality Coal Co.					
Dean No. 2,	Pick,		E or Lemon,		17,807
Dean No. 8,	Machine,	Compressed air,	E or Lemon,	120,335	
Dean No. 9,	Pick,		E or Lemon,		9,186
Coulter & Huff.					
Argyle,	Pick,		B or Miller,		160,843
Conemaugh,	Pick,		B or Miller,		60,027
Kokono,	Pick,		E or Lemon,		417
John C. Scott & Sons.					
Webster No. 3,	Pick,		B or Miller,		394,988
Webster No. 6,	Pick,		D or Moshannon,		
Allport Coal Co.					
Allport No. 1,	Machine,	Compressed air,	D or Moshannon,	152,119	
Allport No. 2,	Pick,		D or Moshannon,		30,327
Stineman Coal & Coke Co.					
Stineman No. 1,	Pick,		B or Miller,		264,242
Stineman No. 2,	Pick,		B or Miller,		92,202
W. H. Piper & Co.					
Somman No. 1,	Pick,		B or Miller,		81,391
Somman No. 2,	Pick,		B or Miller,		159,794
Pardee Collieries Co.					
Pardee No. 3,	Machines,	Compressed air,	C prime,	254,186	
Pardee No. 4,	Machines,	Compressed air,	D or Moshannon,	47,798	
Vintondale Colliery Co.					
Vinton Nos. 1 and 2,	Machines,	Electric,	B or Miller,	116,178	
Vinton No. 3,	Machines,	Compressed air,	B or Miller,	18,010	
George Pearce & Sons.					
Excelsior,	Pick,		B or Miller,		8,903
Calwell,	Pick,		C or cement,		15,355

TABLE—Giving name of mines, method of haulage and ventilation—Continued.

Name of Colliery.	Method of Mining.	Motive Power Used in Machines.	Seam of Coal Worked.	Approximate quantity of coal mined by machines.	Approximate quantity mined by pick.
Aurora Coal Co.					
Aurora,	Pick,		B or Miller,		29,133
Adams Coal Co.					
Adams,	Pick,		C or cement,		12,083
C. A. Buck.					
Alton,	Pick,		B or Miller,		29,741
Knight & Co.					
Alpha,	Pick,		D or Moshannon,		17,012
Blackfork Mine Co.					
Big Bend,	Machine,	Compressed air,	B or Miller,	163,360	
J. Leahy & D. Laughman.					
Bear Rock,	Pick,		B or Miller,		40,245
Bethel Coal Co.					
Bethel,	Pick,		B or Miller,		20,000
M. Bracken Coal Co.					
Black Diamond,	Pick,		B or Miller,		23,793
C. L. Whitehead & Co.					
Bell,	Pick,		B or Miller,		21,300
Cymbria Coal Co.					
Cymbria,	Pick,		D or Moshannon,		95,698
Cresson Coal and Coke Co.					
Cresson shaft,	Pick,		E or Lemon,		56,763
E. E. Holt & J. G. Pyle.					
Colonial,	Pick,		B or Miller,		5,000

Mountain Coal Co.					
Dunlo slope,	Pick,		B or Miller,		17,598
D. Laughman & Co.					
Dysert,	Pick,		B or Miller,		108,332
Elnora Coal Co.					
Elnora Nos. 1 and 2,	Pick,		No. 1 B No. 2 D or Moshannon,		96,558
East Branch Coal Co.					
East Branch,	Pick,		D or Moshannon,		24,987
Empire Coal Co.					
Empire,	Machines,	Compressed air,	D or Moshannon,	167,978	
Hopfer & Co.					
Elervale,	Pick,		E or Lemon,		25,800
Taylor & McCoy Coal and Coke Co.					
Gallitzen shaft,	Pick,		E or Lemon,		203,305
Taylor Brothers					
Glen Helen,	Pick,		E or Lemon,		56,257
A. J. Haws & Sons, Ltd					
Haws shaft,	Pick,		B or Miller,		33,778
Henrietta Coal Mining Co.					
Henrietta shaft,	Pick,		B or Miller,		197,523
Baltzel Coal Co.					
Ivy Ridge,	Machine,	Electricity,	E or Lemon,	26,050	
Lorain Steel Co.					
Ingleside,	Pick,		B or Miller,		33,911
Listie Mining and Manufacturing Co.					
Krebs,	Machines,	Electricity,	C or cement,	28,000	132,232
C. A. Hughes & Co.					
Lilly slope,	Pick,		B or Miller,		41,521
Llewdell Coal Co.					
Lloydell,	Pick,		B or Miller,		38,125
E. P. McCormick.					
Moshannon,	Pick,		C prime,		19,748
Dunwiddie F. & F. Hirsh.					
Nant Y Glo,	Pick,		B or Miller,		45,117
James Campbie & Co.					
Oak Ridge,	Pick,		D or Moshannon,		29,356

TABLE—Giving name of mines, method of haulage and ventilation—Continued.

Name of Colliery.	Method of Mining.	Motive Power Used in Machines.	Seam of Coal Worked.	Approximate quantity of coal mined by machines.	Approximate quantity mined by pick.
Penn. Bit. Coal Co.					
Portage Slope,	Pick,		B or Miller,		67,079
E. W. Mentzler.					
Plain,	Pick,		B or Miller,		45,468
Morrisdale Coal Co.					
Patton,	Pick,		C prime or cement,		39,473
C. A. & R. J. Hughes.					
Stanford,	Pick,		B or Miller,		23,505
Loyalhanna Coal & Coke Co.					
Sonman Shaft, No. 1,	Pick,		B or Miller,		195,428
Sonman Shaft Coal Co.					
Sonman shaft No. 2,	Pick,		B or Miller,		6,171
Derringer Brothers.					
Susquehanna,	Pick,		D or Moshannon,		40,076
Somerset Coal Co.					
Somerset,	Pick,		B or Miller,		9,309
Stony Creek Coal Co.					
Stony Creek,	Pick,		B or Miller,		12,788
South Fork Coal Mining Co.					
South Fork,	Pick,		B or Miller,		52,909
J. E. Smittle & Co.					
Van Ormer,	Pick,		E or Lemon,		4,710
Clearfield Bit. Coal Co.					
West Branch,	Machines,	Compressed air,	D or Moshannon,	92,447	

Wells Creek Coal Co.					
Wells Creek	Pick		C or cement		9,146
Walnut Run Coal Co.					
Walnut Run	Pick		D or Moshannon		37,631
Brubaker Coal Co.					
Benton	Pick		B or Miller		6,908
Cambria Mining Co.					
Anchor	Pick		B or Miller		13,224
Spangler Mining Co.					
Spangler	Pick		D or Moshannon		60,000
Grand totals				4,468,257	4,125,810

Number of mines worked by drifts,	78
Number of mines worked by slopes,	16
Number of mines worked by shafts,	9
Number ventilated by furnaces,	45
Number ventilated by fans,	58
Number worked on B or Miller seam,	53
Number worked on C prime or cement seam,	14
Number worked on D or Moshanon seam,	24
Number worked on E or Lemon seam,	12
Number of collieries mining with picks,	76
Number of collieries mining with machines,	33
Number of tons mined with pick,	4,125,810
Number of tons mined with machines,	4,468,257
Total quantity of coal mined,	8,594,067
Quantity of coal mined by compressed air machines,	3,297,005
Quantity of coal mined by electric machines,	1,171,252

Accidents.

The number of fatal accidents has increased during the year in about the same ratio as the production of coal, but a change will be noticed in the classification from those of 1898, as seven deaths during the past year were caused by mine wagons, while during the year preceding not a single one was due to this cause, the district, in fact, usually having few accidents of this class charged to it. There were also during the year four fatal accidents of a new character to this district—two by dynamite explosion and two by explosion of gas. Four deaths were caused last year by the victims coming in contact with electric wires carrying 500 volts, which is a new source of danger to be guarded against. These facts in regard to accidents are mentioned, merely to show the changes that are liable to occur in the classification of mishaps in the mines. I have felt pleased over the good showing of the district in the reduction of accidents of the usual classes during the past few years, with the exception of 1896, when eleven men were fatally injured by falls of coal. At that time I called the attention of all the mine foremen of the district to the necessity of strictly enforcing Rule 11 of the general and special rules, which requires that all miners shall set sprags under the coal while undermining, etc. This rule, I believe, has since been strictly enforced, and the results have been very gratifying, the fatal accidents from falls of coal having been reduced over two thirds in proportion to the number of tons of coal mined. Part of this favorable showing, especially in recent years, may be attributed to machine mining, as

the miner is not required to lie under the coal as he does in pick mining. Although accidents from fall of coal will doubtless be greatly reduced by the use of machines, there is another class which we fear will be increased—those by falls of roof, as the distance from the props to the face of the coal is greatly increased in order to make room to begin undermining, and the jarring of the machine, with the accompanying noise prevents the warning that might be given by the roof before falling, and unless good practical men are employed in securing the places by systematic propping before blasting the coal down, more fatalities from this source may be expected.

General Condition of Mines.

Drainage.—Economy in the production of coal has been forced upon the operators in the past few years through keen competition in the markets, which had brought this commodity down to a very low figure, so low that to sell at any profit at all, required a reduction in its cost at the mine—a condition which now, happily, has been greatly improved. Haulage being an important factor in the cost of production, methods of reducing this item of expense have been uppermost in the minds of the operators, and, every well posted mining man knows that one of the essentials toward this end is good drainage, and I am glad to report that the mines have been greatly benefitted in this particular by the general movement for cheaper production, the condition of nearly every mine in the district being all that could be desired as to drainage, except in some places where there have been encountered local swamps or other natural conditions which it is impossible at once to fully overcome.

Ventilation.—It is a well-known fact that 1899 was one of the most prosperous years in the history of mining. The effect of this upon the general condition of the mines, I regret to say, has not been favorable to improved sanitation in many cases. This may be easily attributed, I think, to the efforts which are put forth in such a year to get out the greatest possible quantity of coal, requiring an increase in the number of men, thus filling the mines to their utmost capacity. In some collieries the number of employes has been doubled without any provision having been made to increase the ventilation beyond speeding up the fan, or forcing the furnace. The natural result of this, of course, is a reduction in the quantity of air for each employe, as I am sorry to say that there is little surplus power provided in some of the ventilating apparatus.

I find that in many of the mines of this district, most of which work comparatively low seams of coal, not enough consideration has been given to providing the proper means of producing ventilation under existing circumstances. As the mines become more extensive,

some of them covering large areas of ground, the friction to be overcome in passing air through them, grows to be simply enormous, and since the space through which the air has to travel cannot be made larger without extra expense, this matter is, therefore, in many cases neglected. The result is that great power is required to force the air through these small channels in large quantities. To produce this, a fan is needed with power back of it that will force or exhaust a big volume against a great amount of friction, something that is very much lacking at the present time in many of the larger mines. In a few of them, however, they are for this reason taking out fans that are inadequate and putting in ventilating machines which are up to date. The law which requires the air to be split and does not permit over 65 men to work in one current, necessitates something more than a furnace, nor can the work be done by fans, such as are now being used in an attempt to ventilate many of the mines, especially where more than two splits are required, as they cannot deliver the air against the pressure which is necessary for splitting purposes in anything like sufficient quantity. In the low seams of coal a great amount of friction must be overcome by having ventilating machines which are adequate for the purpose. A great deal of trouble is being encountered in the enforcing of split currents at some of the older mines, now being extensively worked, which has for a distance of a mile or two, only two ways, a return and intake, so that by the time a point is reached where a split may begin, the pressure is so low that it cannot successfully be made. During the past year examinations have been made of the returns or intakes of quite a number of the larger mines, and I found that in many cases they are not kept open as well as they should be. The common practice, as stated, has been to have but one way for the air to enter and one by which it may return from the mine, consequently in case of trouble in either of these passages, the ventilation of the whole mine is affected. In most such workings the second of these ways is between the main hauling road and the old works, which are usually robbed so closely that more or less of a creep is drawn on the mine, causing the roof of this passage to be continually crumbling and falling, or in some of the seams the bottom heaves, both occurrences operating to reduce the area for the air to pass through. In such cases the expense of keeping single airways open is so great as to cause one to wonder why several ways are not provided by leaving a number of pillars between this road and the old workings, thus keeping open various places to be utilized later on for airways. This course would cost practically nothing, as the general method is to turn the cross headings at a right angle from the main heading, parallel with which are the rooms, a few of which may be kept intact by allowing the pillars to remain, thereby providing the additional airways suggested above.

Explosive gas was detected in three of the mines of the district during the year, and fire bosses were at once employed, two of the mines requiring two men each, and the other but one, although safety lamps have not been put in use, except in a few cases in pillar drawing. Three of the mines which give off explosive gas, namely, Rolling Mill, Webster No. 3 and West Branch, are putting in Capell fans of the largest type, although each of them already has fans that produce from 200 to 300 cubic feet per minute for each person employed. The operators of these mines are making provision for the future of their plants, as should be done in all mines, instead of waiting until the extreme limit of the ventilating apparatus has been reached and then being prevented from putting on more men, or putting them on in violation of the law and all the better instincts of humanity, compelling the laborers to suffer for want of that which God has given so freely and abundantly—good, pure air.

Description of Mines.

Somerset County Mines.—Seven of these are located on the Somerset and Cambria branch of the Baltimore and Ohio Railroad. All are comparatively small mines, except the Krebs, at Listie, which is ventilated by a fan which gives good results. Machine mining has also been introduced here during the past year, electricity being the motive power. Electric haulage was put in during the latter part of 1898. The safety and sanitary condition of this, as well as of the six smaller mines, are good.

The remainder of the mines in Somerset county are located at Windber, and are operated by the Berwind-White Coal Company. They are eight in number, the group constituting probably the largest soft coal collieries in the United States. In my last annual report was incorporated a detailed description of these workings. To that, little may be added except to say that the operators have kept abreast of the times and employ in every department the latest and best methods for the production of coal. Deserving of special mention is also the system of ventilation, requiring no doors, but using in their place overcasts, by which the air can be conducted in separate splits to each sub-division of the mine, thereby not depending upon trapper boys, who might neglect their duty and thus cut off the ventilation from some part of the mine. No expense is spared in providing ventilating machinery adequate for every demand upon it in a mine where the split system is in use.

Mines Located at Johnstown.—During 1899 there were six mines in this place coming under the law, although there are at present eight. Of the six regularly examined during the year, four were ventilated by fans, the other two by furnaces, all being kept in first class condition in every respect.

Mineral Point.—Near this place is located the Black Diamond Mine, at which a fan is being put in to replace a furnace, the latter being no longer adequate for proper ventilation.

South Fork.—Seven mines are operated at this place, four of which are ventilated by fans, the balance by furnaces. The Argyle is quite an extensive colliery, and although it has the largest furnace in the district this is no longer capable of ventilating from its present location, hence it will be necessary either to remove it nearer the face of the workings or put in a fan. This has always been one of the best conducted mines in the district. Webster No. 3 is now ventilated by two fans, the smaller of which is to be replaced by a 16-foot Capell, the foundation for the same now being in readiness. Although the present facilities provide at least 200 cubic feet of air per minute for each employe, these operators are wisely preparing for the future of their mine. At the South Fork mine the condition for the past few years has not been very good, owing to a lack of ventilation, combined with an excess of heat in the slope from pipes which convey steam to the pumps, which worked against the air supply and also made it very uncomfortable for the employes in going to and from their work. This defect has been remedied by operating the pumps with compressed air, which enters the mine through the pipes formerly used to convey steam, thus putting the colliery in much better sanitary condition. Stineman mines Nos. 1 and 2 are ventilated by fans, neither of which is adequate for its task, although the one at No. 2 might possibly do the work if it were removed to a point nearer the face of the mine. As to the fan at No. 1 it has reached the limit of its capacity and another should be put in at once to assist it to keep the mine in good sanitary condition. The increase has been large here both in extent of workings and in the number of men employed, which circumstances call for more power to produce ventilation.

Mines on the Dunlo Branch.—These are five in number, three at Dunlo and two at Lloydell. All the former and one of the latter are ventilated by fans. At the other Lloydell mine a furnace is used, which is of enormous capacity, and when fired to anywhere near its limit, will do its work satisfactorily. The drainage, however, needs improvement. The Henrietta, one of the three Dunlo mines, has outgrown the capacity of its present fan, and will soon require either a larger one or an additional one, to keep the colliery in its usual good sanitary condition.

Portage Branch.—Nine mines are operated on this road, only three of which are very extensive—Puritan Nos. 1 and 2 and New Slope. All are ventilated by fans, which are scarcely sufficient for the work, necessitating either their replacement by larger ones, or an increase of the area through which the air is forced into the workings. The remainder of the mines on this branch are small operations, not requiring large volumes of air, consequently are easily supplied.

Ben's Creek and Sonman Mines.—Two of these are worked by shafts, and are supplied with air by fans, and kept in first class condition as regards ventilation, drainage, and general safety. Three of the others located here will soon be worked out, possibly during the present year. Of the remaining four, three are new mines, two of which have not yet been visited. I shall of course expect these to be kept in first class condition, as they will doubtless be opened up on modern plans, which means economy in production of coal, as well as good sanitation.

Lilly.—Of the five mines located near this place, three are ventilated by fans and are kept in very fair sanitary condition. The other two are ventilated by furnaces, by which, since they are small operations, it is not difficult to keep them in good condition as regards ventilation.

Cresson and Gallitzin.—The other mines of the district along the main line of the Pennsylvania Railroad, are one at Cresson and two at Gallitzin, the latter being among the largest operations in this territory. Gallitzin slope has always been kept in the very best condition, and is so now, but this is another instance where the mine has grown so large that the fan cannot keep pace with the demand for air, and a new and larger one will be required for proper ventilation in the future. Coal is mined and hauled here by electricity. Gallitzin shaft has always been kept at a high standard of sanitation during a period of several years, but it, too, must soon have larger ventilating apparatus, owing to the extent of the mine and the increase in the number of employes.

Cresson and Coalport Branch.—There are six mines on this division of the Pennsylvania Railroad, all of which are in very fair condition as to drainage and ventilation. Two of the largest, Amsbry and Dean No. 8, are ventilated by fans; at others, furnaces are used.

Patton.—This is the central point about which nine mines are operated, the coal from them being shipped over the Beech Creek Railroad. Two are at St. Boniface, and are new operations, both in excellent condition. The others have been operated for several years, and in some of them there is need for improvement in the ventilation by providing separate splits of air for the workings. Otherwise the mines at this point are in a fair state as to sanitation.

Hastings.—There are six collieries here. Hastings Nos. 1 and 2 are well supplied with air by fans. Oak Ridge mine is ventilated by a furnace, which keeps it in excellent condition. Benton and Sterling No. 10 are small operations and were in good condition when last examined. Sterling No. 8 is quite a large colliery, which cannot be properly ventilated by the 12-foot fan now in use. One 16 or 18 feet in diameter would be much more efficient.

Mines on the Susquehanna Branch of the Clearfield and Cambria Division of the P. R. R.—On this road there are in operation twenty-

five mines, all of which are kept in very fair sanitary condition. A few of the larger ones where furnaces for ventilating purposes are now in use will no doubt have to be replaced by fans, as it is out of the question for a furnace to produce in shallow mines the pressure necessary for the successful splitting of air currents.

Blacklick Branch of the Cambria and Clearfield Division.— There are seven mines on this branch. The three at Vintondale are ventilated by fans and are kept in first-class condition. The one at Twin Rocks also has a fan, and if the air is properly distributed it should be well ventilated, but at the last examination the drainage was quite defective. At Nant-y-Glo there are two workings, both provided with fans, and as they are comparatively small mines there is no reason why they should not be kept in first class condition, as I have found them on all of my examinations. The seventh, the Shoemaker mine, is a small working.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Sixth Bituminous District, 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent	Postoffice Address.
Eureka No. 30,	Somerset,	Berwind-White Coal Mining Co.,	Thomas Fisher,	Philadelphia.
Eureka No. 31,	Somerset,	Berwind-White Coal Mining Co.,	Thomas Fisher,	Philadelphia.
Eureka No. 32,	Somerset,	Berwind-White Coal Mining Co.,	Thomas Fisher,	Philadelphia.
Eureka No. 33,	Somerset,	Berwind-White Coal Mining Co.,	Thomas Fisher,	Philadelphia.
Eureka No. 34,	Somerset,	Berwind-White Coal Mining Co.,	Thomas Fisher,	Philadelphia.
Eureka No. 35,	Somerset,	Berwind-White Coal Mining Co.,	Thomas Fisher,	Philadelphia.
Eureka No. 36,	Somerset,	Berwind-White Coal Mining Co.,	Thomas Fisher,	Philadelphia.
Eureka No. 37,	Somerset,	Berwind-White Coal Mining Co.,	Thomas Fisher,	Philadelphia.
Yellow Run Shaft,	Cambria,	Berwind-White Coal Mining Co.,	Thomas Fisher,	Philadelphia.
Lancashire No. 7,	Cambria,	Barnes & Tucker,	T. Barnes,	Barnsboro.
Lancashire No. 6,	Cambria,	Barnes & Tucker,	T. Barnes,	Barnsboro.
Lancashire No. 3,	Cambria,	Barnes & Tucker,	T. Barnes,	Barnsboro.
Lancashire No. 4,	Cambria,	Barnes & Tucker,	T. Barnes,	Barnsboro.
Juniata,	Cambria,	Barnes & Tucker,	T. Barnes,	Barnsboro.
Gallitzen Slope,	Cambria,	Mitchell Coal and Coke Co.,	Wm. M. Smith,	Gallitzen.
Columbia No. 4,	Cambria,	Mitchell Coal and Coke Co.,	Wm. M. Smith,	Gallitzen.
Columbia No. 6,	Cambria,	Mitchell Coal and Coke Co.,	Wm. M. Smith,	Gallitzen.
Columbia No. 7,	Cambria,	Mitchell Coal and Coke Co.,	Wm. M. Smith,	Gallitzen.
Hastings No. 1,	Cambria,	Mitchell Coal and Coke Co.,	Wm. M. Smith,	Gallitzen.
Hastings No. 2,	Cambria,	Mitchell Coal and Coke Co.,	Wm. M. Smith,	Gallitzen.
Columbian No. 1,	Cambria,	Patton Coal Co.,	John Ashcroft,	Patton.
Ashcroft No. 3,	Cambria,	Patton Coal Co.,	John Ashcroft,	Patton.
Flanigan No. 4,	Cambria,	Patton Coal Co.,	John Ashcroft,	Patton.
Flanigan No. 6,	Cambria,	Patton Coal Co.,	John Ashcroft,	Patton.
Sterling No. 8,	Cambria,	Duncan & Spangler,	C. F. Frazer,	Hastings.
Sterling No. 10,	Cambria,	Duncan & Spangler,	C. F. Frazer,	Hastings.
Sterling No. 11,	Cambria,	Duncan & Spangler,	C. F. Frazer,	Hastings.
Delta,	Cambria,	Duncan & Spangler,	C. F. Frazer,	Hastings.
Rolling Mill,	Cambria,	Cambria Steel Co.,	M. G. Moore,	Johnstown.
Gautier No. 3,	Cambria,	Cambria Steel Co.,	M. G. Moore,	Johnstown.
Franklin,	Cambria,	Cambria Steel Co.,	M. G. Moore,	Johnstown.
Conemaugh Slope,	Cambria,	Cambria Steel Co.,	M. G. Moore,	Johnstown.
Puritan No. 1,	Cambria,	Puritan Coal Co.		
Puritan No. 2,	Cambria,	Puritan Coal Co.		
Puritan No. 3,	Cambria,	Puritan Coal Co.		
Dean No. 2,	Cambria,	Frugality Coal and Coke Co.,	P. H. Wall,	Philadelphia.
Dean No. 8,	Cambria,	Frugality Coal and Coke Co.,	P. H. Wall,	Philadelphia.
Dean No. 9,	Cambria,	Frugality Coal and Coke Co.,	P. H. Wall,	Philadelphia.
Argyle,	Cambria,	Coulter & Huff,	J. P. Wilson,	South Fork.
Conemaugh,	Cambria,	Coulter & Huff,	J. P. Wilson,	South Fork.
Kokono,	Cambria,	Coulter & Huff,	J. P. Wilson,	South Fork.
Webster No. 3,	Cambria,	J. C. Scott & Sons,	Phillip Hartman,	Ehrenfeld.
Webster No. 5,	Cambria,	J. C. Scott & Sons,	Phillip Hartman,	Ehrenfeld.
Allport No. 1,	Cambria,	Allport Coal Co.,	Jas. H. Allport,	Hastings.
Allport No. 2,	Cambria,	Allport Coal Co.,	Jas. H. Allport,	Hastings.

TABLE I—Continued.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Stineman No. 1.	Cambria.	Stineman Coal and Coke Co.,	W. J. Stineman,	South Fork.
Stineman No. 2.	Cambria.	Stineman Coal and Coke Co.,	W. J. Stineman,	South Fork.
Sonman No. 1.	Cambria.	W. H. Piper & Co.,	A. H. Slayman,	Altoona.
Sonman No. 2.	Cambria.	W. H. Piper & Co.,	A. H. Slayman,	Altoona.
Pardee No. 3	Cambria.	Pardee Collieries Co.,	W. C. Lingle,	Patton.
Pardee No. 4.	Cambria.	Pardee Collieries Co.,	W. C. Lingle,	Patton.
Vinton Nos. 1 and 2.	Cambria.	Vinton Colliery Co.,	Clarence R. Claghorn,	Vintondale.
Vinton No. 3.	Cambria.	Vinton Colliery Co.,	Clarence R. Claghorn,	Vintondale.
Excelsior.	Cambria.	George Pearce & Sons.		
Caldwell.	Cambria.	George Pearce & Sons.		
Aurora.	Cambria.	Aurora Coal Co.		
Adams.	Somerset.	Adams Coal Co.		
Alton.	Cambria.	C. A. Back.	L. C. Wolf.	Altoona.
Alpha.	Cambria.	Knight & Co.		
Big Bend.	Cambria.	Blacklick Mining Co.,	A. J. McHugh.	Expedit.
Bear Rock.	Cambria.	J. Leahy & D. Laughman.	John Leahy,	Lilly.
Bethel.	Somerset.	Bethel Coal Co.		
Black Diamond.	Cambria.	M. Bracken Coal Co.		
Bell No. 1.	Cambria.	G. L. Whitehead & Co.,	John Whitehead.	Philadelphia.
Cymbria.	Cambria.	Cymbria Coal Co.,	E. R. Musser,	Barnsboro.
Cresson shaft.	Cambria.	Cresson Coal & Coke Co.	John R. Powell.	Cresson.
Colonial.	Cambria.	B. B. Holt & J. G. Platt.	E. W. Holt.	Hooversdale.
Jumbo Slope.	Cambria.	Mountain Coal Co.,	J. P. Wilson,	South Fork.
Dysert.	Cambria.	D. Laughman & Co.		
Elmora Nos. 1 and 2.	Cambria.	Elmora Coal Mining Co.,	John B. Reed,	Elmora.
East Branch.	Cambria.	East Branch Coal Co.,	W. Deninger,	Spangler.
Empire.	Cambria.	Empire Coal Mining Co.,	R. A. Shillingford,	Peal.
Ebervale.	Cambria.	Hopper & Co.,	Edward Hopper.	Portage.
Gallitzen Shaft.	Cambria.	Taylor & McCoy Coal and Coke Co.,	T. E. Dipner.	Gallitzen.
Glen Helen.	Cambria.	Taylor Brothers.	Valentine Eichenlaub,	Glen White.
Haws Shaft.	Cambria.	A. J. Haws & Sons, Ltd.,	Jas. P. Thomas.	
Henrietta Shaft.	Cambria.	Henrietta Coal Mining Co.		
Ivy Ridge.	Cambria.	Baltzel Coal Co.,	Chas. Baltzel.	Altoona.
Ingleside.	Cambria.	Lorain Steel Co.,	T. C. Du Pont.	Johnstown.
Krebs.	Somerset.	Listie Mining and Manufacturing Co.,	George J. Krebs.	Somerset.
Lilly Slope.	Cambria.	C. A. Hughes & Co.		
Lloydell.	Cambria.	Lloydell Coal Co.,	J. P. Wilson,	South Fork.
Meshannon.	Cambria.	E. P. McCormick.	E. P. McCormick.	
Nant Y Glo.	Cambria.	Dunwiddie E. & F. Hirsh.	Dr. Dunwiddie.	Phillipsburg.
Oak Ridge.	Cambria.	James Campble & Co.,	James Campble,	Hastings.
Portage Slope.	Cambria.	Penn Bit. Coal Co.,	John Langdon,	Huntingdon.
Plain.	Cambria.	E. W. Mentzer.		
Patton.	Cambria.	Morrisdale Coal Co.	J. E. Hedding.	Morrisdale Mines.
Standard.	Cambria.	C. A. & R. J. Hughes.		
Sonman Shaft No. 1.	Cambria.	Loyalhanna Coal & Coke Co.		
Sonman Shaft No. 2.	Cambria.	Sonman Shaft Coal Co.,	Chas. W. Saxman.	Portage.

Susquehanna,	Cambria,	Derringer Brothers,	W. Derringer,	Spangler.
Somerset,	Somerset,	Somerset Coal Co.,	A. F. John,	Johnstown.
Stony Creek,	Somerset,	Stony Creek Coal Co.,	A. F. John,	Johnstown.
South Fork No. 1,	Cambria,	South Fork Coal Co.,	John Lansdon,	Huntingdon.
Van Ormer,	Cambria,	J. E. Smittle & Co.,	J. E. Smittle,	Van Ormer.
West Branch,	Cambria,	Clearfield Bit. Coal Co.,	R. A. Stillingsford,	Peal.
Wells Creek,	Somerset,	Wells Creek Coal Co.,	Fred. C. Keighley,	Uniontown.
Walnut Run,	Cambria,	Walnut Run Coal Co.,	F. C. Frazer,	Hastings.
Bedford,	Cambria,	Brubaker Coal Co.		
Ogilvie,	Cambria,	Cambria Coal Mining Co.		
Spangler,	Cambria,	Summit Coal Co.		

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
[illegible] No. 2,	J. S. Cunningham,	Windber,	David Fleming,	D. A. Thomas,	Christ. Shoemaker.
[illegible] No. 31,				Adolph Cook,	George Garret.
[illegible] No. 32,				Jas. R. Summerville,	Chas. Phenice.
[illegible] No. 33,				Milton Pedicord,	H. H. States.
[illegible] No. 34,				John G. Fife,	Wm. H. Morgan.
[illegible] No. 35,				Thomas D. Forsyth,	Chas. Mears.
[illegible] No. 36,				D. Watkins.	
[illegible] No. 37,				D. T. Edwards.	
[illegible] Run Slant,				Thomas Griffiths.	
[illegible] No. 5,	J. T. Slinger,	Barnsboro,	A. Morris,	Thomas Stevens,	John Yates.
[illegible] No. 6,	J. T. Slinger,	Barnsboro,	A. Morris,	Richard Asheroft,	Joe Bryson.
[illegible] No. 3,	J. T. Slinger,	Barnsboro,	A. Morris,	John Reed,	T. H. Barnes.
[illegible] No. 4,	J. T. Slinger,	Barnsboro,	A. Morris,	Sam Taylor,	C. Woodhead.
[illegible],	J. T. Slinger,	Barnsboro,	A. Morris,	Edward Dawson,	Robert Dawson.
Gallitzen Slope,	J. L. Nicholson,	Gallitzen,		Ed. Nicholson,	Grant Snyder.
Columbia No. 4,	J. L. Nicholson,	Gallitzen,		Robert Spence,	
Columbia No. 6,	J. L. Nicholson,	Gallitzen,		William Bell.	
Columbia No. 7,	J. L. Nicholson,	Gallitzen,		J. L. Nicholson.	
Hastings No. 1,	W. C. Shiffer,	Hastings,		B. F. Smith,	H. D. Henther.
Hastings No. 2,	W. C. Shiffer,	Hastings,		B. F. Smith.	
[illegible] No. 1,				George Hartshorn.	
Adanac No. 3,				J. L. Stratton.	
Flanigan No. 1,				Alex. Montooth,	J. Montooth.
Flanigan No. 6,				John Hunter.	
Sterling No. 8,					
Sterling No. 1,					
Sterling No. 12,					
Delta,					
Rolling Mill,	W. H. Morris,	Johnstown,		Charles Croker,	Thomas Prosser.
Gallitzen No. 2,	W. H. Morris,	Johnstown,		Thomas Mather	
Franklin,	W. H. Morris,	Johnstown,		James Brownlee.	
Conemaugh Slope,	W. H. Morris,	Johnstown,		John Fulton.	
Puritan No. 1,	P. H. Campble,	Portage,		Joseph Campble.	
Puritan No. 2,				George P. Bell.	
Puritan No. 3,				Edward McConnell.	
Dean No. 2,	F. F. McFarland,	Frugality,		George Simmers.	
Dean No. 8,	F. F. McFarland,	Frugality,		George Simmers.	
Dean, No. 9,	F. F. McFarland,	Frugality,		Wm. Simmers.	Wm. Leaper.
Argyle,			John Wilson,	Thomas Williams,	J. Wilson.
Conemaugh,				John Donaldson,	John Buck.
Kokomo,				Joseph Easton,	J. Easton.
Webster No. 1,			James Callahan,	John Baker.	
Webster No. 2,			James Callahan,	J. Callahan.	
Adanac No. 1,			J. B. Dill,	J. D. Jones,	T. T. Lewis.
Adanac No. 2,			J. B. Dill,	Alex. McCormick,	Chas. Jones.

Stineman No. 1,				Samuel Brewer.	
Stineman No. 2,	J. B. Reed,	Elmora,		Clarence Farber.	
Sonman No. 1,	George Forsyth,	Lilly,		Jas. A. Stoker.	
Sonman No. 2,	George Forsyth,	Lilly,		George Eaton.	
Pardee No. 3,				Frank Campble.	
Pardee No. 4,				Evan Evans.	
Vinton Nos. 1 and 2,	Henry B. Douglas,	Vintondale,	Talmage Bloss,	George Blewitt,	E. J. Blockly.
Vinton No. 3,	Henry B. Douglas,	Vintondale,	Talmage Bloss,	Wm. B. Alexander.	
Excelsior,	R. Pearce,	Puritan,		Robert Pearce.	
Caldwell,	R. Pearce,	Puritan,		T. Pearce.	
Aurora,	D. W. Luke,	South Fork,		Henry Gage.	
Adams,	P. M. Conner,	Friedan,		P. M. Conner.	
Alton,	D. J. Mulhollen,	Lloydell,		Daniel Mulhollen.	
Alpha,	H. C. Williams,	Barnesboro,		H. Williams.	
Big Bend,				James Robinson.	
Bear Rock,	Patrick Leahy,	Lilly,		Thomas Morran.	
Bethel,	A. J. White,	Holsopple,		A. J. White.	
Black Diamond,	J. H. Bracken,	Johnstown,		John Leonard.	
Bell No. 1,	T. W. Whitehead,	Houtzdale,		E. E. Husted.	
Cymbria,				Thomas Scullen.	
Cresson shaft,				John Pratt.	
Colonial,				Grant Watkins.	
Dunlo Slope,	R. Pardoe,	Dunlo,		Walter Ellis.	
Dysert,	Thomas Leahy,	Lilly,		Thomas Leahy	
Elmora Nos. 1 and 2,				Andrew Lees.	
East Branch,				Edward Kelly.	
Empire,				Wm. Crichton.	
Ebervale,				Arthur Canavan.	
Gallitzen Shaft,				Gowen Stoker.	
Glen Helen,				Harvey Mears.	
Haws Shaft,	Wm. Oppy,	Johnstown,		Wm. Oppy.	
Henrietta Shaft,	James Campble,	Dunlo,		J. Campble.	
Ivy Ridge,	James Higham,	Portage,		James Higham,	Thomas Shaw.
Ingleside,	Wm. Moss,	Wallsell,		Wm. Moss.	
Kyle,				Wm. McKee.	
Lilly Slope,	Nickolas Evans,	Lilly,		Nicholas Evans.	
Lloydell,	R. Pardoe,	Dunlo,		J. Robinson.	
Moshannon,				Daniel Campble,	Wm. Joyce.
Nant Y Glo,				J. J. McGonigal.	
Oak Ridge,				James Campble.	
Portage Slope,				Evan D. Davis.	
Plain,	E. W. Mentzer,	Hollidaysburg,		John Leap.	
Patton,	Ed. Cowan,	Carroltown,		Daniel Campble.	
Standard,	R. J. Hughes,	Altoona,		N. Evans.	
Sonman Shaft No. 1,	Joseph Patterson	Myra,		James Nelson.	
Sonman Shaft No. 2,				Smith Hawxby.	
Susquehanna,				Henry C. Rodgers.	
Somerset,				Robert Gilmore.	
Stony Creek,				Charles Hoffer.	
South Fork No. 1,	R. H. Ott,	South Fork,		R. H. Ott.	
Van Ormer,				J. M. Smittle.	
West Branch,				Chas. Stewart.	
Wells Creek,	Hugh Ross,	Frieden,		Hugh Ross.	

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Inside Foreman.	Name of Outside Foreman.
Walnut Run	C. F. Frazer	Hastings	Peter Stewart.	
Bergen	Andy Baner	Puritan	Thomas Booth.	
Arthur	F. G. Betz	Clearfield	Thomas Forsyth.	
Spring Lake			Thomas Estep.	

TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Sixth Bituminous District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Berwind-White Coal Mining Co.													
Eureka No. 30,	Somerset,	458,062	8,085	186	466,333		290	467	2		2,000	7,200	
Eureka No. 31,	Somerset,	431,225	3,181	964	435,370		294	495	1	2	1,800	6,700	
Eureka No. 32,	Somerset,	159,255	4,729	4,086	168,070		291	279	3	3	700	2,600	
Eureka No. 33,	Somerset,	194,675	3,557	63	198,295		295	239			900	3,300	
Eureka No. 34,	Somerset,	152,105	1,456	3	153,564		294	285	1		700	2,600	
Eureka No. 35,	Somerset,	144,169	2,320	147	146,636		302	334			700	2,600	
Eureka No. 36,	Somerset,							21					
Eureka No. 37,	Somerset,	1,236			1,236		25	38				3,000	
Yellow Run,	Cambria,	255,673	5,731		261,404		262	304		1	1,127		33
Total,		1,796,400	29,059	5,449	1,830,908		289	2,462	7	6	7,927	28,000	33
Barnes & Tucker.													
Lancashire No. 7,	Cambria,	122,879	550		123,429		239.50	136	1		625	20,000	6
Lancashire No. 6,	Cambria,	101,189	750		101,939		254	106	1		475	4,000	14
Lancashire No. 3,	Cambria,	21,226	350		21,576		110	46		2	300		6
Lancashire No. 4,	Cambria,	4,313	900		5,213		227	7			25		1
Juniata,	Cambria,	24,313	400		24,713		212	46			96		6
Total,		273,920	2,950		276,870		231	341	2	2	1,521	24,000	33

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Mitchell Coal & Coke Co.													
Gallitzen Slope,	Cambria,	130,408	3,600	1,400	289,771	102,982	286.50	360	.....	.....	1,831	.....	45
Columbia No. 4,	Cambria,	36 648	.....	350	36,998	.....	242	66	.....	.....	250	.....	10
Columbia No. 6,	Cambria,	31,671	500	360	32,471	.....	261	35	.....	.....	200	.....	8
Columbia No. 7,	Cambria,	.....	.....	.....	.....	.....	.....	21	.....	.....	20	.....	.....
Hastings No. 1,	Cambria,	44,156	1,200	968	96,528	78,110	265	242	.....	.....	1,158	500	19
Hastings No. 2,	Cambria,	.....	.....	.....	49,388	.....	.....	.....	.....	.....	.....	.....	.....
Total,	.....	242,883	5,300	3,018	505,156	181,092	263	724	.....	.....	3,459	500	82
Patton Coal Co.													
Columbia No. 1,	Cambria,	132,529	500	200	133,229	.....	245	161	1	2	1,000	300	10
Ashcroft No. 3,	Cambria,	47,222	.....	.....	47,222	.....	238	81	.....	.....	400	100	5
Flanigan Run No. 4,	Cambria,	207,770	1,500	500	209,570	.....	248	221	.....	.....	1,400	400	12
Flanigan Run No. 6,	Cambria,	29,822	.....	23	29,845	.....	197	41	.....	.....	200	100	2
Total,	.....	417,143	2,000	723	419,866	.....	232	504	1	2	3,000	900	29
Duncan & Spangler.													
Sterling No. 8,	Cambria,	128,725	3,631	516	132,675	.....	208.10	137	.....	.....	683	.....	25
Sterling No. 10,	Cambria,	13,421	.....	.....	13,421	.....	226	25	.....	.....	147	.....	1
Sterling No. 11,	Cambria,	23,817	165	44	24,026	.....	205	33	.....	.....	89	.....	4
Delta,	Cambria,	78,739	912	263	79,914	.....	211	106	.....	.....	424	.....	18
Total,	.....	244,502	4,711	823	250,036	.....	212	301	.....	.....	1,343	.....	48

Cambira Steel Co.													
Rolling Mill,	Cambria	498,515	4,567	.....	503,082	.....	302.75	538	3	3	2,695	1,350	60
Gautier No. 3,	Cambria	28,265	53	.....	28,318	.....	269.25	35	1	.....	130	250	2
Franklin,	Cambria	68,836	.....	.....	68,836	.....	519	116	.....	.....	340	3,750	12
Conemaugh Slope,	Cambria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,		595,616	4,620	.....	600,236	.....	305	689	4	3	3,165	5,350	74
Puritan Coal Mining Co.													
Puritan No. 1,	Cambria	130,541	2,691	625	133,857	.....	241	190	1	1	539	.....	14
Puritan No. 2,	Cambria	26,697	.....	125	26,822	.....	231	35	.....	.....	107	.....	5
Puritan No. 3,	Cambria	53,102	800	250	54,152	.....	211	85	1	.....	214	.....	6
Total,		210,340	3,491	1,000	214,831	.....	228	310	2	1	860	.....	25
Frugality Coal Co.													
Dean No. 2,	Cambria	14,432	25	3,350	17,807	.....	168.50	33	.....	.....	187	.....	3
Dean No. 8,	Cambria	118,835	1,200	300	120,335	.....	241.50	174	.....	.....	889	200	12
Dean No. 5,	Cambria	.....	75	648	9,186	5,049	72	68	.....	.....	103	.....	3
Total,		133,267	1,300	4,298	147,328	5,049	200	275	.....	.....	1,179	200	18
Coulter & Huff.													
Argyle,	Cambria	158,993	1,460	390	160,843	.....	368	206	.....	1	1,532	250	16
Conemaugh,	Cambria	58,810	547	670	60,027	.....	304	81	3	.....	572	450	5
Kokomo,	Cambria	417	.....	.....	417	.....	57	22	.....	.....	10	.....	1
Total,		218,220	2,007	1,060	221,287	.....	253	309	3	1	2,114	700	22
John C. Scott & Sons.													
Webster No. 3,	Cambria	386,152	6,312	2,524	394,988	.....	282	528	2	1	1,624	600	34
Webster No. 5,	Cambria	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,		386,152	6,312	2,524	394,988	.....	282	528	2	1	1,624	600	34
Allport Coal Co.													
Allport No. 1,	Cambria	152,119	.....	.....	152,119	.....	272	157	.....	1	680	.....	18
Allport No. 2,	Cambria	30,327	.....	.....	30,327	.....	252	38	.....	.....	150	.....	4
Total,		182,446	.....	.....	182,446	.....	262	195	.....	1	830	.....	22
Stineman Coal and Coke Co.													
Stineman No. 1,	Cambria	260,642	3,600	.....	264,242	.....	286	283	.....	.....	2,000	600	30
Stineman No. 2,	Cambria	91,802	400	.....	92,202	.....	278	143	.....	9	700	200	10
Total,		352,444	4,000	.....	356,444	.....	282	426	.....	9	2,700	800	40
W. H. Piper & Co.													
Sonman No. 1,	Cambria	79,371	1,320	700	81,391	.....	254	86	.....	.....	132	50	10
Sonman No. 2,	Cambria	158,674	120	1,000	159,794	.....	266	201	.....	.....	450	300	23
Total,		238,045	1,440	1,700	241,185	.....	260	287	.....	.....	582	350	33

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Pardee Collieries Co.													
Pardee No. 3.	Cambria	251,874	1,126	1,186	254,186	.....	247	253	1	.....	600	.....	32
Pardee No. 4.	Cambria	47,570	125	103	47,798	.....	205	74	1	.....	400	200	12
Total.	.....	299,444	1,251	1,289	301,984	.....	226	327	2	.....	1,000	200	44
Vintondale Colliery Co.													
Vinton Nos. 1 and 2.	Cambria	114,739	932	507	116,178	.....	273	147	.....	.....	857	.....	.....
Vinton No. 3.	Cambria	17,885	107	18	18,010	.....	125	50	.....	.....	161	237	4
Total.	.....	132,624	1,039	525	134,188	.....	199	197	.....	.....	1,018	237	4
George Pearce & Son.													
Excelsior.	Cambria	8,799	104	.....	8,903	.....	209	12	.....	.....	90	.....	2
Caldwell.	Cambria	15,355	.....	.....	15,355	.....	108	36	.....	.....	150	.....	2
Total.	.....	24,154	104	.....	24,258	.....	158	48	.....	.....	240	.....	4
Aurora Coal Co.													
Aurora.	Cambria	29,633	.....	300	29,933	.....	192	54	.....	.....	180	.....	7
Adams Coal Co.													
Adams.	Somerset	11,833	150	100	12,083	.....	228	27	.....	.....	100	.....	3
C. A. Buck.													
Alton.	Cambria	29,391	150	200	29,741	.....	244	57	.....	.....	180	.....	5
Knight & Co.													
Alpha.	Cambria	16,932	.....	80	17,012	.....	200	28	.....	.....	115	50	1

Blacklick Mining Co. Big Bend,	Cambria,	102,165	860	335	103,360	.....	272	125	.....	.....	500	.....	12
J. Leahy & D. Laughman. Bear Rock,	Cambria,	40,045	100	200	40,345	.....	225	74	.....	.....	200	50	7
Bethel Coal Co. Bethel,	Somerset,	20,000	.....	.....	20,000	.....	246	24	.....	.....	120	10	3
M. Bracken Coal Co. Black Diamond,	Cambria,	23,688	84	21	23,793	.....	214	42	.....	.....	117	50	3
G. L. Whitehead & Co. Bell No. 1,	Cambria,	20,760	.....	540	21,300	.....	259.50	26	.....	.....	145	115	3
Cymbria Coal Co. Cymbria,	Cambria,	95,548	.....	150	95,698	.....	235	100	1	.....	586	25	13
Cresson Coal and Coke Co. Cresson Shaft,	Cambria,	54,159	1,825	779	56,763	.....	275	77	1	.....	400	.....	5
B. B. Holt & J. G. Platt. Colonial,	Somerset,	5,000	.....	.....	5,000	.....	85	26	.....	.....	.....	.....	2
Mountain Coal Co. Dunlo Slope,	Cambria,	16,962	480	156	17,598	.....	208	32	.....	.....	100	75	3
D. Laughman & Co. Dysart,	Cambria,	106,628	825	1,479	108,332	.....	274	175	.....	.....	540	150	17
Elmora Coal Mining Co. Elmora Nos. 1 and 2,	Cambria,	90,458	100	.....	90,558	.....	246	143	.....	.....	500	.....	10
East Branch Coal Co. East Branch,	Cambria,	24,687	.....	.....	24,687	.....	192	39	.....	.....	235	150	6
Empire Coal Mining Co. Empire,	Cambria,	165,678	1,500	520	167,078	.....	240	200	.....	1	700	.....	8
Hopper & Co. Ebervale,	Cambria,	25,000	.....	800	25,800	.....	230	42	.....	.....	150	.....	5
Taylor & McCoy Coal & Coke Co. Gallitzen Shaft,	Cambria,	72,517	1,726	4,686	203,905	81,646	287.30	377	.....	.....	410	.....	20
Taylor Bros. Glen Helen,	Cambria,	55,517	381	359	56,257	.....	240	63	.....	.....	295	40	6
A. J. Haws & Sons, Ltd. Haws Shaft,	Cambria,	.....	1,209	.....	33,778	.....	307	55	.....	.....	200	1,200	6
Henrietta Coal Mining Co. Henrietta,	Cambria,	192,942	3,356	1,225	197,523	.....	285	218	.....	.....	1,400	1,000	31

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Baltzell Coal Co. Ivy Ridge,	Cambria,	26,000	.....	50	26,050	.....	195	56	.....	.....	300	20	5
Lorain Steel Co. Ingleside,	Cambria,	33,616	250	45	33,911	.....	212.50	40	.....	.....	195	150	4
Listie Mining and Mfg. Co. Krebs,	Somerset,	151,432	700	100	152,232	.....	182	152	.....	1	1,100	100	16
C. A. Hughes & Co. Lilly slope,	Cambria,	40,916	187	418	41,521	.....	220	79	.....	.....	25	50	9
Lloydell Coal Co. Lloydell,	Cambria,	37,825	.....	300	38,125	.....	279	51	.....	.....	300	80	8
E. P. McCormick. Moshannon,	Cambria,	19,700	.....	48	19,748	.....	150	29	1	.....	75	.....	4
Dunwiddie F. & F. Hirsch. Nant Y Glo,	Cambria,	45,042	75	.....	45,117	.....	243	92	.....	.....	600	50	7
James Campbell & Co. Oak Ridge,	Cambria,	28,790	102	464	29,356	.....	179	45	.....	.....	214	40	4
Penn Blt. Coal Co. Portage slope,	Cambria,	65,363	1,716	.....	67,079	.....	269	121	.....	.....	270	.....	11
E. W. Mentzer. Plaine,	Cambria,	45,348	.....	120	45,468	.....	228	67	.....	.....	200	50	8

Morrisdale Coal Co. Patton,	Cambria,	39,395		58	39,453		263	71			254		6
C. A. & R. J. Hughes. Standard,	Cambria,	33,505			33,505		240	44			15		4
Loyalhanna Coal and Coke Co. Sonman Shaft No. 1,	Cambria,	190,420	4,675	333	195,428		223	202	1	1	1,200	170	24
Sonman Shaft Coal Co. Sonman Shaft No. 2,	Cambria,	5,763	244	164	6,171		183	52			20		3
Derringer Bros. Susquehanna,	Cambria,	40,020		56	40,076		241	49			400	500	4
Somerset Coal Co. Somerset,	Somerset,	9,309			9,309		197	19			20		2
Stony Creek Coal Co. Stony Creek,	Somerset,	12,788			12,788		229	22			25		3
South Fork Coal Mining Co. South Fork No. 1	Cambria,	48,202	4,482	225	52,909		284	82			346	500	4
J. E. Smittle & Co. Van Ormer,	Cambria,	4,414		96	4,510		186	11			20	1	
Clearfield Bit Coal Co. West Branch,	Cambria,	90,227	2,000	220	92,447		244	200		4	400	800	8
Wells Creek Coal Co., Ltd. Wells Creek,	Somerset,	2,146	*		9,146		258	22	1		85		3
Walnut Run Coal Co. Walnut Run,	Cambria,	37,031			37,031		225	49			242	136	3
Brubaker Coal Co. Benton,	Cambria,	6,050	10	848	6,908		127	18			27		
Cambria Coal Mining Co. Anchor Mine,	Cambria,	13,224			13,224		178	18			100		4
Spangler Coal Co. Spangler,	Cambria,	60,000			60,000		249	93			500		5
Grand total,		8,032,449	96,756	37,284	8,594,067	267,787	234	11,611	28	33	16,468	67,379	870

*Balance to locomotives.

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.					Locomotives.											
		Cylindrical—water tube.	Horse power.	Tubular.	Horse power.	Total horse power.	Steam.	Air.	Electric.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
Berwind-White Coal Mining Co.																	
Eureka No. 30,	Somerset,	3	750			750			6		600	5	400	300	3	2	
Eureka No. 31,	Somerset,	2	500			500			5		500	4	200	150			
Eureka No. 32,	Somerset,	3	750			750			3		300	4	200	150			
Eureka No. 33,	Somerset,		500	1	60	560			3		300	4	200	150	2		
Eureka No. 34,	Somerset,	2	500			500			2		200	3	300	200			
Eureka No. 35,	Somerset,	3	750			750			3		300	2	200	150	4	2	
Eureka No. 36,	Somerset,																
Eureka No. 37,	Somerset,	2	500	1	60	560			1		100						
Yellow Run,	Cambria,			3	750	750				5	475	4	3,900	1,800		1	
Total,		17	4,250	5	870	5,120			23	5	2,775	28	5,400	2,900	11	14	
Barnes & Tucker.																	
Lancashire No. 7,	Cambria,			2	250	250			1	2	200				2		
Lancashire No. 6,	Cambria,											2	800	800			
Lancashire No. 3,	Cambria,	2	80			80				1	50	1	300	100			
Lancashire No. 4,	Cambria,																
Juniata,	Cambria,																
Total,		2	80	2	250	330			1	3	250	3	1,100	900	2		
Mitchell Coal & Coke Co.																	
Gallitzen Slope,	Cambria,	5	200	3	360	560	1		2	5	520				2		221
Columbia No. 4,	Cambria,																
Columbia No. 6,	Cambria,			3	180	180				2	100					1	
Columbia No. 7,	Cambria,			3	180	180				2	100					1	
Hastings No. 1,	Cambria,	3	240			240			1	2	200	1	128	40	1		152
Hastings No. 2,	Cambria,																
Total,		8	440	9	720	1,160	1		3	11	920	1	128	40	3	2	373

Patton Coal Co.																	
Columbia No. 1,	Cambria,	1	35			35				1	35						
Ashcroft No. 3,	Cambria,																
Flanigan Run No. 4,	Cambria,			2	180	180			1	2	360	2	300	250	2		
Flanigan Run No. 6,	Cambria,																
Total,		1	35	2	180	215			1	3	335	2	300	250	2		
Duncan & Spangler.																	
Sterling No. 8,	Cambria,			4	320	320				1	120	2	1,500	1,200		1	
Sterling No. 10,	Cambria,																
Sterling No. 11,	Cambria,			2	120	120										1	
Delta,	Cambria,			1	100	100										1	
Total,				7	540	540				1	120	2	1,500	1,200		3	
Cambira Steel Co.																	
Rolling Mill,	Cambria,	7	1,140	3	180	1,320		2		5	500	2	150	100		2	
Gautier No. 3,	Cambria,			1	35	35											
Franklin,	Cambria,											1	20	15	1		
Conemaugh Slope,	Cambria,																
Total,		7	1,140	4	215	1,355		2		5	500	3	170	115	1	2	
Puritan Coal Mining Co.																	
Puritan No. 1,	Cambria,			4	320	320			2	3	180	1	750	600	4		
Puritan No. 2,	Cambria,																
Puritan No. 3,	Cambria,			1	100	100			1	1	100	1	250	200			
Total,				5	420	420			3	4	280	2	1,000	800	4		
Frugality Coal Co.																	
Dean No. 2,	Cambria,																
Dean No. 8,	Cambria,			4	360	360				2	130	1	800	400		1	
Dean No. 9,	Cambria,						1				20						88
Total,				4	360	360	1			2	150	1	800	400		1	88
Coulter & Huff.																	
Argyle,	Cambria,	1	60	1	30	90				1	60						
Conemaugh,	Cambria,	1	50			50				1	30						
Kokomo,	Cambria,																
Total,		2	110	1	30	110				2	90						
John C. Scott & Sons.																	
Webster No. 3,	Cambria,			9	1,125	1,125				5	440	2	1,000	800	2	2	
Webster No. 5,	Cambria,																
Total,				9	1,125	1,125				5	440	2	1,000	800	2	2	

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical—water tube.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
Allport Coal Co.																	
Allport No. 1,	Cambria,																
Allport No. 2,	Cambria,																
Total,																	
Stineman Coal and Coke Co.																	
Stineman No. 1,	Cambria,			3	250	250				3	300	3	800	500			
Stineman No. 2,	Cambria,			1	150	150			1	2	200				1		
Total,				4	400	400			1	5	500	3	800	500	1		
W. H. Piper & Co.																	
Somman No. 1,	Cambria,	2	200			200											
Somman No. 2,	Cambria,			1	10	10											
Total,		2	200	1	10	210											
Pardee Collieries Co.																	
Pardee No. 3,	Cambria,	2	100	2	150	250				2	100					1	
Pardee No. 4,	Cambria,			2	150	150										1	
Total,		2	100	4	300	400				2	100					2	
Vintondale Colliery Co.																	
Vinton Nos. 1 and 2,	Cambria,			3	300	300			1	4	300				2		
Vinton No. 3,	Cambria,			2	250	250				3	225					1	8
Total,				5	550	550			1	7	525				2	1	8

George Pearce & Son.																	
Excelsior,	Cambria,																
Caldwell,	Cambria,																
Total,																	
Aurora Coal Co.																	
Aurora,	Cambria,																
Adams Coal Co.																	
Adams,	Somerset,																
C. A. Buck.																	
Alton,	Cambria,									1	18						
Knight & Co.																	
Alpha,	Cambria,																
Blacklick Mining Co.																	
Big Bend,	Cambria,			3	180	180	1			2	170					2	
J. Leahy & D. Laughman.																	
Bear Rock,	Cambria,																
Bethel Coal Co.																	
Bethel,	Somerset,																
M. Bracken Coal Co.																	
Black Diamond,	Cambria,			1	50	50				1	50						
G. L. Whitehead & Co.																	
Bell No. 1,	Cambria,																
Cymbria Coal Co.																	
Cymbria,	Cambria,									*1	10						
Cresson Coal and Coke Co.																	
Cresson Shaft,	Cambria,			3	80	240				2	370	1	587	300			
B. B. Holt & J. G. Platt.																	
Colonial,	Somerset,																
Mountain Coal Co.																	
Dunlo Slope,	Cambria,			1	100	100				2	27	1	200	50			
D. Laughman & Co.																	
Dysart,	Cambria,			2	65	65	1			3	65	1	250	100			
Elmora Coal Mining Co.																	
Elmora Nos. 1 and 2,	Cambria,																
East Branch Coal Co.																	
East Branch,	Cambria,																

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical—water tubs.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
Empire Coal Mining Co. Empire	Cambria			3	260	260			1	3	243				1	1	
Hopper & Co. Ebervale	Cambria																
Taylor & McCoy Coal & Coke Co. Gallitzen Shaft	Cambria	8	320			320				3	120						
Taylor Bros. Glen Heleh	Cambria	2	50	1	20	70				3	60						20
A. J. Haws & Sons, Ltd. Haws Shaft	Cambria			2	120	120						2	160	100			
Henrietta Coal Mining Co. Henrietta	Cambria	2	200	1	250	450						4	†				
Baltzell Coal Co. Ivy Ridge	Cambria								1		‡						
Lorain Steel Co. Ingleside	Cambria																
Listie Mining and Mfg. Co. Krebs	Somerset			2	200	200			1	2	210				1		
C. A. Hughes & Co. Lilly slope	Cambria			1	100	100				1	30						

Lloydell Coal Co.																		
Lloydell,	Cambria,																	
E. P. McCormick.																		
Moshannon,	Cambria,																	
Dunwiddie F. & F. Hirsch.																		
Nant Y Glo,	Cambria,			1	15	15				1	12							
James Campbell & Co.																		
Oak Ridge,	Cambria,																	
Penn Bit. Coal Co.																		
Portage slope,	Cambria,	1	100	1	100	200				2	100	2	550	200				
E. W. Mentzer.																		
Plaine,	Cambria,																	
Morrisdale Coal Co.																		
Patton,	Cambria,																	
C. A. & R. J. Hughes.																		
Standard,	Cambria,																	
Loyalhanna Coal and Coke Co.																		
Sonman Shaft No. 1,	Cambria,			7	500	500				4	295	4	2,060	900		1		
Sonman Shaft Coal Co.																		
Sonman Shaft No. 2,	Cambria,			3	295	295			1	3	95	2	750	300	1			
Derringer Bros.																		
Susquehanna,	Cambria,																	
Somerset Coal Co.																		
Somerset,	Somerset,																	
Stony Creek Coal Co.																		
Stony Creek,	Somerset,																	
South Fork Coal Mining Co.																		
South Fork No. 1,	Cambria,			4	560	560				2	370	2	600	200		1		
J. E. Smittle & Co.																		
Van Ormer,	Cambria,																	
Clearfield Bit Coal Co.																		
West Branch,	Cambria,			3	260	260			1	3	243	4	200	150	1	1		
Wells Creek Coal Co., Ltd.																		
Wells Creek,	Somerset,			1	10	10				1	10							
Walnut Run Coal Co.																		
Walnut Run,	Cambria,																	

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TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical—water tube.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
Brubaker Coal Co.																	
Benton,	Cambria,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Cambria Coal Mining Co.																	
Anchor Mine,	Cambria,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Spangler Coal Co.																	
Spangler,	Cambria,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grand total,	.....	54	7,625	102	9,135	16,320	4	2	38	95	9,473	70	17,555	10,205	32	33	489

*Gasoline engine.
†Capacity not given.
‡Power had from another plant.

TABLE III—Showing the number of each class of employes at each colliery in the Sixth Bituminous District, during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or Mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Berwind-White Coal Mining Co.																	
Eureka No. 30,	1	.....	365	25	12	.....	32	435	1	3	8	2	.....	2	16	32	467
Eureka No. 31,	1	.....	375	50	13	.....	27	466	1	3	4	2	.....	2	17	29	495
Eureka No. 32,	1	.....	195	48	7	1	10	262	1	2	4	1	.....	1	8	17	279
Eureka No. 33,	1	.....	190	9	6	1	13	220	1	2	5	.....	.....	1	10	19	239
Eureka No. 34,	1	.....	210	34	7	1	13	266	1	2	4	.....	.....	1	11	19	285
Eureka No. 35,	1	.....	260	34	7	.....	10	312	1	3	5	1	.....	1	11	22	334
Eureka No. 36,	1	.....	.....	.....	.....	.....	20	21	.....	.....	.....	.....	.....	.....	.....	.....	21
Eureka No. 37,	1	.....	18	.....	2	.....	11	32	.....	1	.....	.....	.....	.....	5	6	38
Yellow Run Shaft,	1	.....	237	17	18	6	9	288	.....	3	4	1	.....	1	7	16	304
Total,	9	.....	1,850	217	72	9	145	2,302	6	19	34	7	.....	9	85	160	2,462
Barnes & Tucker.																	
Lancashire No. 7,	1	.....	95	20	4	4	1	125	1	1	3	1	.....	1	4	11	136
Lancashire No. 6,	1	.....	75	10	7	4	1	98	1	1	.....	1	.....	1	4	8	106
Lancashire No. 3,	1	.....	26	10	3	1	.....	41	1	1	1	.....	.....	.....	2	5	46
Lancashire No. 4,	1	.....	5	.....	1	.....	.....	7	.....	.....	.....	.....	.....	.....	.....	.....	7
Juniata,	1	.....	26	10	2	1	.....	40	1	.....	2	.....	.....	1	2	6	46
Total,	5	.....	227	50	17	10	2	311	4	3	6	2	.....	3	12	30	341

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or Mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Mitchell Coal and Coke Co.																	
Gallitzen Slope,	1	.....	240	3	16	6	34	260	1	4	3	6	70	4	12	106	366
Columbia No. 4,	1	.....	50	.....	6	1	4	62	1	1	.....	1	.....	1	.....	4	66
Columbia No. 6,	1	.....	22	.....	3	1	4	31	1	.....	2	.....	.....	1	.....	4	35
Columbia No. 7,	1	.....	8	4	2	.....	2	17	.....	.....	2	.....	.....	.....	2	4	21
Hastings No. 1,	1	.....	90	.....	6	3	6	106	1	2	3	.....	50	1	7	64	242
Hastings No. 2,	1	.....	65	.....	4	1	1	72	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	6	.....	435	7	37	12	51	548	4	7	10	7	120	7	21	176	724
Patton Coal Co.																	
Columbia No. 1,	1	.....	120	20	6	6	.....	153	1	1	2	.....	.....	1	3	8	161
Ashcroft No. 3,	1	.....	70	.....	3	3	.....	77	1	1	.....	.....	.....	.....	2	4	81
Flanigan Run No. 4,	1	.....	165	30	7	7	.....	210	1	2	3	.....	.....	1	4	11	221
Flanigan Run No. 6,	1	.....	30	5	2	.....	.....	38	1	1	.....	.....	.....	.....	1	3	41
Total,	4	.....	385	55	18	16	.....	478	4	5	5	.....	.....	2	10	26	504
Duncan & Spangler.																	
Sterling No. 8,	1	.....	100	.....	6	3	11	121	.....	3	3	1	.....	3	6	16	137
Sterling No. 10,	1	.....	22	1	1	.....	.....	25	.....	.....	.....	.....	.....	.....	.....	.....	25
Sterling,	1	.....	26	3	1	.....	.....	31	1	.....	1	.....	.....	.....	2	2	33
Delta,	1	.....	64	.....	7	3	22	37	.....	1	2	.....	.....	2	4	9	106
Total,	4	.....	212	4	15	6	33	274	1	4	6	1	.....	5	10	27	301

Cambria Steel Co.																	
Rolling Mill,	2	2	339	.....	47	30	69	489	1	8	11	.....	.....	5	24	49	538
Gautier No. 3,	1	.....	27	.....	2	.....	1	31	.....	1	.....	.....	.....	2	1	4	35
Franklin,	1	.....	73	.....	12	2	6	94	.....	4	2	.....	.....	2	14	22	116
Conemaugh Slope,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	4	2	439	.....	61	32	76	614	1	13	13	.....	.....	9	39	75	689
Puritan Coal Co.																	
Puritan No. 1,	1	.....	150	.....	16	5	5	177	.....	2	3	1	.....	3	4	13	190
Puritan No. 2,	1	.....	27	.....	4	1	1	24	.....	1	.....	.....	.....	.....	.....	1	35
Puritan No. 3,	1	.....	65	.....	8	2	2	78	.....	1	1	1	.....	.....	4	7	85
Total,	3	.....	242	.....	28	8	8	289	.....	4	4	2	.....	3	8	21	310
Frugality Coal Co.																	
Dean No. 5,	.....	.....	25	.....	3	1	2	31	.....	.....	.....	.....	.....	.....	2	2	33
Dean No. 8,	1	.....	125	.....	12	1	20	159	.....	2	2	1	.....	3	7	15	174
Dean No. 9,	1	.....	40	.....	3	1	1	46	1	2	1	.....	.....	.....	18	22	68
Total,	2	.....	190	.....	18	3	23	236	1	4	3	1	.....	3	27	39	275
Coulter & Huff.																	
Argyle,	1	.....	165	.....	10	.....	2	178	1	3	3	.....	.....	3	18	28	206
Conemaugh,	1	.....	68	.....	5	.....	1	75	1	1	1	.....	.....	1	2	6	81
Kokono,	1	.....	15	.....	1	.....	2	19	1	1	.....	.....	.....	1	.....	3	22
Total,	3	.....	248	.....	16	.....	5	272	3	5	4	.....	.....	5	20	37	309
John C. Scott & Sons.																	
Webster No. 3,	2	2	450	.....	34	3	10	501	.....	4	5	1	.....	2	15	27	528
Webster No. 5,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	2	2	450	.....	34	3	10	501	.....	4	5	1	.....	2	15	27	528
Allport Coal Co.																	
Allport No. 1,	1	.....	140	.....	6	1	3	151	1	1	.....	1	.....	1	2	6	157
Allport No. 2,	1	.....	30	.....	2	.....	1	34	1	1	.....	1	.....	1	.....	4	38
Total,	2	.....	170	.....	8	1	4	185	2	2	.....	2	.....	2	2	10	195
Stineman Coal and Coke Co.																	
Stineman No. 1,	1	.....	230	.....	26	.....	6	263	.....	3	4	.....	.....	4	9	20	283
Stineman No. 2,	1	.....	120	.....	8	2	2	134	.....	2	1	.....	.....	1	5	9	143
Total,	2	.....	350	.....	34	3	8	397	.....	5	5	.....	.....	5	14	29	426
W. H. Piper & Co.																	
Sonman No. 1,	1	.....	61	1	12	3	1	79	.....	1	2	.....	.....	1	3	7	86
Sonman No. 2,	1	.....	164	3	18	3	1	190	.....	3	1	.....	.....	2	5	11	201
Total,	2	.....	225	4	30	6	2	269	.....	4	3	.....	.....	3	8	18	287

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or Mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Pardee Collieries Co.																	
Pardee No. 3,	1	.....	198	.....	16	13	4	232	.....	[illegible]	4	.....	.....	4	11	21	253
Pardee No. 4,	1	.....	56	.....	3	2	1	63	.....	[illegible]	2	.....	.....	4	3	11	74
Total,	2	.....	254	.....	19	15	5	295	.....	4	6	.....	.....	8	14	32	327
Vintondale Colliery Co.																	
Vinton Nos. 1 and 2,	1	.....	111	.....	8	.....	8	128	1	2	3	.....	.....	3	10	19	147
Vinton No. 3,	1	.....	32	.....	2	.....	5	39	1	1	2	.....	.....	2	4	10	50
Total,	2	.....	143	.....	10	.....	13	168	2	3	5	.....	.....	5	14	29	197
George Pearce & Sons.																	
Excelsior,	1	.....	9	.....	1	.....	.....	11	.....	.....	1	.....	.....	.....	.....	1	12
Caldwell,	1	.....	30	1	2	1	.....	35	.....	.....	.....	.....	.....	1	.....	1	36
Total,	2	.....	39	1	3	1	.....	46	.....	.....	1	.....	.....	1	.....	2	48
Aurora Coal Co.																	
Aurora,	1	.....	45	.....	3	.....	1	50	.....	1	.....	1	.....	1	1	4	54
Adams Coal Co.																	
Adams,	1	.....	20	.....	3	.....	1	25	1	.....	.....	.....	.....	.....	1	2	27
C. A. Buck.																	
Alton,	1	.....	48	.....	4	1	.....	54	.....	1	1	.....	.....	.....	1	3	57

Knight & Co.																	
Alpha,	1	.....	26	.....	1	.....	.....	28	.....	.....	.....	.....	.....	.....	.....	.....	28
Blacklick Mining Co.																	
Big Bend,	1	.....	99	.....	9	3	1	113	1	2	3	.....	.....	1	5	12	125
J. Leahy & D. Laughman.																	
Bear Rock,	1	.....	60	.....	7	1	1	70	1	1	.....	.....	.....	.....	2	4	74
Bethel Coal Co.																	
Bethel,	1	.....	20	.....	3	.....	.....	21	.....	.....	.....	.....	.....	.....	.....	.....	24
M. Bracken Coal Co.																	
Black Diamond,	1	.....	32	.....	4	1	.....	38	.....	1	1	.....	.....	1	1	4	42
G. L. Whitehead & Co.																	
Bell No. 1,	1	.....	22	.....	1	.....	.....	24	.....	.....	.....	.....	.....	2	.....	2	26
Cymbria Coal Co.																	
Cymbria,	1	.....	85	.....	5	3	1	95	.....	1	.....	1	.....	1	2	5	100
Cresson Coal & Coke Co.																	
Cresson Shaft,	1	.....	62	.....	5	.....	2	70	.....	1	3	.....	.....	2	1	7	77
B. B. Holt & J. G. Platt.																	
Colonial,	1	.....	18	.....	2	.....	2	23	.....	.....	.....	.....	.....	1	2	3	26
Mountain Coal Co.																	
Dunlo Slope,	1	.....	25	.....	2	.....	.....	28	.....	1	1	.....	.....	.....	2	4	32
D. Laughman & Co.																	
Dysert,	1	.....	125	.....	20	2	3	151	1	1	2	.....	.....	2	18	24	175
Elmora Coal Co.																	
Elmora Nos. 1 and 2,	1	.....	125	1	7	2	.....	136	.....	1	....	.....	.....	1	5	7	143
East Branch Coal Co.																	
East Branch,	1	.....	35	.....	2	.....	.....	38	.....	.....	.....	.....	.....	1	.....	1	39
Empire Coal Mining Co.																	
Empire,	1	.....	125	9	8	2	40	185	.....	2	3	.....	.....	1	9	15	200
Hoffler & Co.																	
Ebervale,	1	.....	33	.....	4	1	1	40	1	.....	.....	.....	.....	1	.....	2	42
Taylor & McCoy Coal and Coke Co.																	
Gallitzen Shaft,	1	.....	239	8	18	10	27	303	.....	4	4	1	63	2	.....	74	377
Taylor Brothers.																	
Glen Helen,	1	.....	40	.....	6	2	6	55	.....	1	3	.....	.....	2	2	8	63
A. J. Haws & Sons, Ltd.																	
Haws Shaft,	1	.....	38	.....	4	.....	3	46	.....	.....	2	.....	.....	.....	7	9	55

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or Mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Henrietta Coal Mining Co.																	
Henrietta Shaft,	1	.....	170	10	20	7	.....	208	....	3	5	.....	.....	2	.....	10	218
Baltzel Coal Co.																	
Ivy Ridge,	1	.....	38	.....	3	2	8	52	1	1	.....	1	.....	1	.....	4	56
Lorain Steel Co.																	
Ingleside,	1	.....	34	.....	2	.....	.....	37	.....	.....	.....	.....	.....	1	2	3	40
Listie Mining and M'f'g Co.																	
Krebs,	1	.....	110	4	9	4	10	138	.....	2	2	.....	.....	4	6	14	152
C. A Hughes & Co																	
Lilly Slope,	1	.....	60	2	7	3	1	74	.....	1	1	.....	.....	.....	3	5	79
Lloydell Coal Co.																	
Lloydell,	1	.....	40	.....	5	2	.....	48	.....	1	.....	.....	.....	.....	2	3	51
E P McCormick.																	
Moshannon,	1	.....	20	2	2	1	.....	26	1	.....	.....	.....	.....	1	1	3	29
Dunwiddie F. & F. Hirsh.																	
Nant Y Glo,	1	.....	70	.....	7	2	.....	80	1	1	.....	1	.....	3	6	12	92
James Campble & Co																	
Oak Ridge,	1	.....	35	.....	3	2	1	42	.....	.....	.....	.....	.....	1	2	3	45

Penn. Bit. Coal Co.																	
Portage Slope,	1	.....	89	.....	11	.....	11	112	.....	1	3	.....	.....	.....	5	9	121
E. W. Mentzer.																	
Plain,	1	.....	50	2	7	2	.....	62	1	1	.....	.....	.....	1	2	5	67
Morrisdale Coal Co.																	
Patton,	1	.....	62	1	4	.....	.....	68	.....	1	.....	.....	.....	1	1	3	71
C. A. and R. J. Hughes.																	
Standard,	1	.....	37	.....	4	1	.....	43	.....	.....	.....	.....	.....	.....	1	1	44
Loyalhanna Coal and Coke Co.																	
Sonman Shaft No. 1,	1	.....	140	.....	15	.....	25	181	.....	3	6	.....	.....	3	9	21	202
Sonman Shaft Coal Co.																	
Sonman Shaft No. 2,	1	.....	38	3	2	1	.....	45	.....	.....	3	.....	.....	1	3	7	52
Derringer Brothers.																	
Susquehanna,	1	.....	45	.....	2	.....	.....	48	.....	.....	.....	.....	.....	1	.....	1	49
Somerset Coal Co.																	
Somerset,	1	.....	16	.....	1	.....	.....	18	.....	.....	.....	.....	.....	.....	1	1	19
Stony Creek Coal Co.																	
Stony Creek,	1	.....	18	.....	2	.....	.....	21	.....	.....	.....	.....	.....	.....	1	1	22
South Fork Coal Mining Co.																	
South Fork No. 1,	1	.....	60	.....	5	2	2	70	.....	2	5	.....	.....	2	3	12	82
J. E. Smittle & Co.																	
Van Ormer,	1	.....	9	.....	.....	.....	.....	10	.....	.....	.....	.....	.....	1	.....	1	11
Clearfield Bituminous Coal Co.																	
West Branch,	1	2	100	7	10	6	50	176	1	3	4	.....	.....	1	15	24	200
Wells Creek Coal Co.																	
Wells Creek,	1	.....	17	1	1	.....	.....	20	.....	1	.....	.....	.....	1	.....	2	22
Walnut Run Coal Co.																	
Walnut Run,	1	.....	41	.....	3	1	.....	46	.....	1	.....	.....	.....	1	1	3	49
Brubaker Coal Co.																	
Benton,	1	.....	16	.....	1	.....	.....	18	.....	.....	.....	.....	.....	.....	.....	.....	18
Cambria Coal Mining Co.																	
Anchor,	1	.....	15	.....	2	.....	.....	18	.....	.....	.....	.....	.....	.....	.....	.....	18
Spangler Coal Co.																	
Spangler,	1	.....	81	.....	2	4	1	89	.....	1	.....	1	.....	1	1	4	93
Grand total,	101	6	8,592	388	668	193	583	10,531	18	197	162	29	182	118	123	1,586	11,611

TABLE III.—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Berwind-White Coal Mining Co.													
Eureka No. 30.	25	23	27	23	25	25	23	20	24	26	25	24	290
Eureka No. 31.	26	20	27	24	24	24	25	23	25	26	26	24	294
Eureka No. 32.	26	22	27	24	27	24	23	20	23	26	25	25	291
Eureka No. 33.	26	22	27	25	27	25	22	25	23	24	25	24	295
Eureka No. 34.	26	24	27	25	27	25	23	24	22	23	25	23	294
Eureka No. 35.	26	24	27	25	27	26	25	26	24	25	24	23	302
Eureka No. 36.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	25
Eureka No. 37.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20.50	262
Yellow Run Shaft.	22	15.50	24.50	23	24.50	25	20	23.50	21	21.25	21.25	188.50	289*
Total.	177	150.50	186.50	169	181.50	174	161	161.50	161	171.25	171.25	.....	.....
Average.	25	21	27	25	26	25	23	23	23	24	24	24	.....
Barnes & Tucker.													
Lancashire No. 7.	17.50	14	23	15	24	23.50	22.50	24	20	18	20	18	239.50
Lancashire No. 6.	22	15	23	15	24	24	22.50	26	20.50	21	20	21	234
Lancashire No. 5.	.....	.....	.....	.....	.....	.....	17.50	22	18	14.50	19	19	110
Lancashire No. 4.	24	20	24	16	20	20	20	22	17	12	18	14	227
Juniata.	15	16	18	17	20	18	20	20	18	17	14	19	212
Total.	78.50	65	88	63	88	85.50	102.50	114	93.50	82.50	91	91	231*
Average.	20	16	22	16	22	21	20	23	19	16	18	18	.....

Mitchell Coal and Coke Co.													
Gallitzen Slope,	24.80	19.20	26.70	20	21.20	24.30	24.70	25.40	24.80	25	26.20	23.70	286.50
Columbia No. 4,	19	18	24	23	19	20	18	21	19	26	20	21	242
Columbia No. 6,	10	13	20	23	23	26	24	25	25	25	22	25	261
Columbia No. 7,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Hastings No. 1,	42	18	25	15	23	23	21	23	20	24	25	24	265
Hastings No. 2,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	77.80	68.20	95.70	81	86.20	93.30	87.70	94.40	88.80	94	93.20	93.70	263*
Average,	19	17	24	20	22	23	22	24	22	23	23	24	.....
Patton Coal Co.													
Columbia No. 1,	25	22	24	.....	21	24	20	22	15	22	25	25	245
Ashcroft No. 3,	22	23	22	.....	24	23	22	21	21	22	19	19	238
Flanigan Run No. 4,	25	23	24	.....	22	24	21	24	13	22	25	25	248
Flanigan Run No. 6,	.....	.....	.....	20	22	24	22	20	19	23	24	23	197
Total,	72	68	70	20	89	95	85	87	68	89	93	92	232*
Average,	24	22	23	20	22	24	21	22	17	22	23	23	.....
Duncan & Spangler.													
Sterling No. 8,	13.80	8.80	17.80	.....	17	22.90	24	25	20.50	20.50	19.40	18.30	208.10
Sterling No. 10,	13	10	26	.....	26	24	24	23	15	18	25	22	226
Sterling,	19.80	16.30	20.60	.....	12.50	20.60	20.80	26	20.40	13	17.50	17.50	205
Delta,	19.10	12.40	19	.....	20.30	19.80	21.10	23.80	13.40	19.10	21	16.80	211
Total,	65.70	47.60	83.40	.....	75.80	87.30	89.90	97.80	69.30	70.90	82.90	74.60	212*
Average,	26	12	21	.....	19	22	22	24	17	18	21	19	.....
Cambria Steel Co.													
Rolling Mill,	25.50	24	27	25	26.50	25.25	21	26.50	25.75	24.75	24.75	23.34	302.75
Gautier No. 3,	26	22.25	22.50	24.25	27	23.75	24.50	27	26	26	26	25	300.25
Franklin,	26	24	27	25	27	26	25	27	26	26	26	25	310
Conemaugh Slope,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	77.50	70.25	76.50	74.25	70.50	75	73.50	80.50	81.75	86.75	80.75	73.75	395*
Average,	26	24	25	25	24	25	24	27	27	26	26	25	.....

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Puritan Coal Co.													
Puritan No. 1,	20.20	11.50	20.30	20.20	21.50	19	15.90	25.40	22.50	21	23	20.50	241
Puritan No. 2,	16.60	15.40	22	21.50	17.80	18.60	17.70	26.30	20.60	18	20	16.50	231
Puritan No. 3,	16.30	9.50	19.90	18.50	19.60	14.70	14.60	23.20	20.50	15.40	17.50	18.30	211
Total,	53.10	36.40	62.20	60.20	58.90	52.30	48.20	74.90	63.60	54.40	60.50	55.30	228*
Average,	18	12	22	20	19	18	16	24	21	18	20	19	.....
Frugality Coal Co.													
Dean No. 2,	22	17	22	18.50	19	18	20	17	15	.....	.....	.....	168.50
Dean No. 8,	22	17	21.50	21	19.50	15	17.50	23	22	21	21.50	20.50	241.50
Dean No. 9,	.....	.....	.....	.....	.....	.....	.....	.....	.....	23.50	24	24.50	72
Total,	44	34	43.50	39.50	38.50	33	37.50	40	37	44.50	45.50	45	200*
Average,	22	17	22	20	19	16	19	20	18	22	23	23	.....
Coulter & Huff.													
Argyle,	26	24	25	25	26	26	26	27	25	26	26	26	308
Conemaugh,	26	24	25	25	24	26	26	27	23	26	26	26	304
Kenmo,	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	20	22	57
Total,	52	48	50	50	50	52	52	54	48	67	72	74	253*
Average,	26	24	25	25	25	26	26	27	24	22	24	25	.....

John C. Scott & Sons.													
Webster No. 3,	20	16	27	25	24	23	24	26	25	23	25	24	282
Webster No. 5,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total,	20	16	27	25	24	23	24	26	25	23	25	24	282
Average,	20	16	27	25	24	23	24	26	25	23	25	24	282*
Allport Coal Co.													
Allport No. 1,	25	21	25	22	23	21	23	26	23	19	23	21	272
Allport No. 2,	22	18	25	17	22	21	21	18	23	21	22	22	252
Total,	47	39	50	39	45	42	44	44	46	40	45	43	262*
Average,	23	20	25	20	22	21	22	22	23	20	22	22	.....
Stineman Coal and Coke Co.													
Stineman No. 1,	22	20	27	24.50	25.50	24.50	23	26	21	24.50	25	23	286
Stineman No. 2,	23	16	26	24	25.50	25	24	24	21	24	23.50	22	278
Total,	45	36	53	48.50	51	49.50	47	70	42	48.50	48.50	45	282*
Average,	23	18	27	24	25	25	23	25	21	24	24	23	.....
W. H. Piper & Co.													
Sonman No. 1,	24	15	23	19	18	15	22	26	21	25	25	21	254
Sonman No. 2,	20	25	27	20	22	20	22	23	24	22	21	20	266
Total,	44	40	50	39	40	35	44	49	45	47	46	41	260*
Average,	22	20	25	20	20	17	22	25	22	23	23	21	.....
Pardee Collieries Co.													
Pardee No. 3,	26	21	25	.....	22	22	20	25	22	21	21	22	247
Pardee No. 4,	.....	.....	20	.....	23	24	22	25	24	24	20	23	205
Total,	26	21	45	.....	45	46	42	50	46	45	41	45	226*
Average,	26	21	22	.....	22	23	21	25	23	23	20	23	.....
Vintondale Colliery Co.													
Vinton Nos. 1 and 2,	24	16	26	25	23	24	24	22	26	17	25	21	273
Vinton No. 3,	.....	.....	.....	.....	.....	.....	.....	25	26	26	25	23	125
Total,	24	16	26	25	23	24	24	47	52	43	50	44	199*
Average,	24	16	26	25	23	24	24	23	26	22	25	22	.....

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
George Pearce & Sons.													
Excelsior,	22	16	26	18	10.50	16	17	22.50	16	10	23	12	209
Caldwell,	.....	.....	5	5	9	7	.....	18	13	16	20	15	108
Total,	22	16	31	23	19.50	23	17	40.50	29	26	43	27	158*
Average,	22	16	16	11	10	11	9	20	15	13	21	13	.....
Aurora Coal Co.													
Aurora,	18	16	20	16	15	14	16	15	16	15	14	17	192
Adams Coal Co.													
Adams,	24	21	24	24	21	.....	22	20	13	20	20	19	228
C. A. Buck.													
Alton,	24	23	21	22	24	24	.....	14	24	20	23	25	244
Knight & Co.													
Alpha,	20	14	19	20	11	21	14	20	15	11	22	13	200
Blacklick Mining Co.													
Big Bend,	22	20	24	25	20	18	23	24	25	23	26	22	272
J. Leahy & D. Laughman.													
Bear Rock,	18	16	22	20	19	20	18	20	16	18	20	18	225

Bethel Coal Co. Bethel,	18	14	20	12	16	18	20	20	22	25	26	25	246
M. Bracken Coal Co. Black Diamond,	15	9	20	20	24	17	16	21	19	15	17	15	214
G. L. Whitehead & Co. Bell No. 1,	20	19.50	21	23	20.50	19	22	24	23	22	24	21.50	259.50
Cymbria Coal Co. Cymbria,	22	14	21	20	16	20	20	24	20	15	22	21	235
Cresson Coal & Coke Co. Cresson Shaft,	24.20	20	24.30	23.40	23	20	21.10	25.70	23.90	22.40	24.50	23	275
B. B. Holt & J. G. Platt. Colonial,	.....	.....	.....	.....	.....	.....	.....	14	12	21	20	18	85
Mountain Coal Co. Dunlo Slope,	23	21	26	23	26	17	14	10	.....	2	22	24	208
D. Laughman & Co. Dysert,	25	19	26	22	18	22	24	25	20	24	26	23	274
Elmora Coal Co. Elmora Nos. 1 and 2,	20	18	22	21	21	20	20	23	21	19	23	18	246
East Branch Coal Co. East Branch,	14	11	13	11	9	14	20	24	21	16	20	19	192
Empire Coal Mining Co. Empire,	25	20	25	.....	23	24	20	25	22	18	20	18	240
Hoffler & Co. Ebervale,	24	20	24	19	21	18	20	17	15	24	13	15	230
Taylor & McCoy Coal and Coke Co. Gallitzen Shaft,	26.40	21.40	26.70	25.20	21.90	26.30	21.10	22.50	23.60	23	25.30	23.90	287.30
Taylor Brothers. Glen Helen,	18	17	22	23	21	17	20	22	23	24	24	9	240
A. J. Haws & Sons, Ltd. Haws Shaft,	26	24	26	25	27	25	23	27	26	27	26	25	307
Henrietta Coal Mining Co. Henrietta Shaft,	25	18	27	24	26	19	23	27	22	24	26	24	285
Baltzel Coal Co. Ivy Ridge,	15	8	14	20	13	10	14	22	18	20	21	20	195
Lorain Steel Co. Ingleside,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	†212.50

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Listie Mining and Mfg. Co. Krebs,	18	16	23	19	18	.....	.....	22	14	13	18	21	182
C. A. Hughes & Co. Lilly Slope,	19	13	23	15	14	20	15	19	19	17	24	22	220
Lloydell Coal Co. Lloydell,	23	26	26	23	26	17	24	20	24	24	22	24	279
E. P. McCormick. Moshannon,	8	12	6	14	9	12	14	12	13	18	19	13	150
Dunwiddie F. & F. Hirsh. Nant Y Glo,	21	14	26	21	20	23	19	23	16	16	23	21	243
James Campble & Co. Oak Ridge,	12	12	15	15	15	13	16	20	10	14	19	18	179
Penn. Bit. Coal Co. Portage Slope,	25	21	25	23	24	20	21	25	23	17	22	23	269
E. W. Mentzer. Plain,	25	18	25	20	20	20	18	18	18	17	19	20	228
Morrisdale Coal Co. Patton,	24	18	26	13	20	25	24	26	20	22	23	22	263

C. A. and R. J. Hughes.													
Standard,	18	13.50	25	22	19	24	19	16	18	21	22	23	240
Loyalhanna Coal and Coke Co.													
Sonman Shaft No. 1,	19	14	21	20	18	14.50	16.50	21	17	22	22	18.50	223.50
Sonman Shaft Coal Co.													
Sonman Shaft No. 2,	.....	.....	.....	.....	10	25	24	26	24	23	25	26	183
Derringer Brothers.													
Susquehanna,	18	14	23	16	21	21	21	27	23	17	20	20	241
Somerset Coal Co.													
Somerset,	22	15	24	14	19	13	17	20	12	14	9	18	197
Stony Creek Coal Co.													
Stony Creek,	26	16	27	23	20	15	19	22	18	16	13	14	229
South Fork Coal Mining Co.													
South Fork No. 1,	23	19	24	23	26	26	24	25	25	24	21	24	284
J. E. Smittle & Co.													
Van Ormer,	20	17	17	15	11	15	17	20	13	8	17	16	186
Clearfield Bituminous Coal Co.													
West Branch,	24.60	24	27	.....	25	23	20	26.40	18.80	14.80	20	20.40	244
Wells Creek Coal Co.													
Wells Creek,	22	16	27	15	27	1	22	27	26	23	23	26	258
Walnut Run Coal Co.													
Walnut Run,	16	13	19	19.20	21.70	20.60	19.50	20	18.80	19.70	18.40	20	226
Brubaker Coal Co.													
Benton,	.....	.....	.....	.....	.....	.....	.....	28.40	23.70	25.60	25.60	24.50	128
Cambria Coal Mining Co.													
Anchor,	8	12	8	12	10	16	12	17	18	21	22	22	178
Spangler Coal Co.													
Spangler,	22	21	19	18	15	16	19	21	23	24	25	26	249
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	224

*Average. †Only given total.

48-10-99

TABLE IV—List of fatal accidents that occurred in and about the mines of the Sixth Bituminous District, for the year ending December 31, 1899.

Date of Accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 10,	David Decker,	Miner,	46	S.	....	....	Cymbria,	Cambria,	Base of skull crushed by a fall of coal; he was undermining coal.
13,	Peter Komlack,	Miner,	40	S.	....	....	Rolling Mill,	Cambria,	Head and chest crushed; he neglected to sprag the coal, which caused it to fall upon him.
14,	John Dillon,	Miner,	38	M.	W.	6	Columbia,	Cambria,	Mangled badly by mine wagons; it was thought by those who were near that he got on the dilly trip to ride out, and the road is in some places no higher than the top of the loaded wagon, and as he was a very large man he was caught between the top of the wagon; he was horribly mangled when found by the mine foreman, who happened to walk out after the trip.
21,	John Kobal,	Loader,	40	M.	W.	4	Eureka No. 32,	Somerset,	Killed by electricity. He ran his car out across the main heading track, and when under the trolley wire he stood up and struck the back of his head against the naked wire. He had been sick with the grip for a couple of weeks, and this was his first day to work, therefore was in a bad condition to stand the shock.
Feb. 28	Jainer Piper,	Miner,	23	S.	....	....	Puritan No. 1,	Cambria,	Squeezed and back broken by being doubled up under a loaded car; he was ahead of the car guiding it, and stumbled and fell under it.
Mar. 1,	Michael Holigan,	Rock man,	40	S.	....	....	Eureka No. 32,	Somerset,	Crushed under large piece of rock. He was barring it down, his bar slipped, which threw him just as it was falling and it caught him on the back of the head, and killed him instantly.

	16,	Stevan Norak,	Miner,	47	M.	W.	6	Moshannon,	Cambria,	Rupture of bladder; he lived several days. It was thought to be but a slight accident at first, but afterwards proved fatal. If this man had been a practical miner he would not have been hurt at all, as the piece of coal that fell on him should have been pulled down.
May	1,	Joseph Sneman,	Miner,	34	M.	W.	2	Conemaugh,	Cambria,	Head and body crushed by a fall of coal. This was an unavoidable accident.
June	2,	Frank Kovateb,	Miner,	42	M.	W.	....	Rolling Mill,	Cambria,	Chest crushed, causing death. He was stealing a ride out on the dilly trip, in violation of the rules of the mine, and the trip wrecked and caught him between the cars.
	7,	Steve Mudock,	Loader,	29	M.	W.	2	Eureka No. 30,	Somerset,	Killed by electricity. He was pushing a car on to face of heading where he was working, and was standing at time he touched his head against the wire.
	14,	Emil Mertins,	Miner,	22	S.	....	....	Pardee No. 3,	Cambria,	Head and whole body crushed by a fall of rock. He was drawing stumps and was mining under a corner of coal, and a large piece of rock and some coal gave way and fell upon him.
	26,	Robert Foreman,	Trackman,	26	S.	....	....	Eureka No. 32,	Somerset,	Killed by electricity. He was working in one of the cross headings pulling up an old switch, and being a long time at the job, one of the men went to look for him and found him lying dead; his work was done, and it was supposed that he was rising up to leave when some of the tools on his back touched the wire.
July	10,	Henry Hoyer,	Miner,	46	M.	W.	....	Webster No. 3,	Cambria,	This man and his son met their death by an explosion of gas, which was not before known to exist in the mine.
	10,	James Hoyer,	Miner,	14	S.	....	....	Webster No. 3,	Cambria,	
Aug.	21,	Steve Wargo,	Miner,	29	M.	W.	2	Sonman Shaft No. 1,	Cambria,	Crushed on head and breast, killing him almost instantly, by a fall of coal which he neglected to sprag.
Sept.	9,	Wm. H. Young,	Miner,	29	M.	W.	2	Conemaugh,	Cambria,	Young and Rice were killed by an explosion of dynamite in a bottom hole. There is but little doubt that they undertook to force the dynamite into the hole with a large iron bar, as there was a wooden bar there for that purpose, and it was found where the men on the other shift had left it, and the iron bar was found thrown back on the heading all bent up.
	9,	George Rice,	Miner,	26	M.	W.	....	Conemaugh,	Cambria,	

TABLE III—Continued.

Date of Accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Sept. 22,	George Clemence,	Miner,	16	S.	....	....	Rolling Mill,	Cambria,	This boy was killed by doing what he should not have done. While the driver was pushing a car out of a room he started up the mule and tried to jump on the front end of the car, and there happened to be no bumper on this car, and he fell under the loaded car, and it doubled him up and broke his back, killing him almost instantly.
Oct. 18,	Henry Lee,	Miner,	34	M.	W.	1	Puritan No. 3,	Cambria,	Killed by a fall of coal. A clear case of carelessness in not spragging the coal.
27,	Charles Chara,	Miner,	27	S.	....	....	Cresson Shaft,	Cambria,	Instantly killed by a fall of coal. Was a case of pure negligence in not spragging the coal, as he was mining under a piece with two loose ends.
Nov. 9,	Herbert Mills,	Miner,	31	M.	W.	4	Pardee No. 4,	Cambria,	Was killed by a fall of rock. It was an unavoidable accident; the piece of rock fell out of the roof; it was in a V shape, two slips coming together.
14,	Jacob Igletski,	Loader,	35	S.	....	....	Eureka No. 31,	Somerset,	This man came in contact with the trolley wire; he turned to the side to get out of the way of the motor, and went on the side the trolley wire was on, instead of the other side where there was a width of over 3 feet from rail to rib.
14,	M. Ohalack,	Miner,	21	S.	....	....	Lancashire No. 6,	Cambria,	Killed by a fall of rock. This was an unavoidable accident; his place had very bad and very treacherous roof, and he was caught by a large fall of top.

	16.	Peter Adamick, ...	Loader, ...	21	.....	Eureka No. 34, ...	Somerset,.....	Killed by a car striking him on the stomach. He was working in a heading which was going to the dip heavily, and while the motor was pulling cars out he was instructed by his foreman to get into the cross-cut until cars were pulled over the summit, but this time at least he did not, and a coupling broke and let a car down, which struck the one he was loading, and it struck him on the stomach and killed him.
	24.	Joseph Doman, ...	Miner, ...	34	M. W. 2	Lancashire No. 7, ...	Cambria.....	Was killed by a fall of rock. He was blowing rock in heading by night, and after a shot he was under the roof clearing, when a very large piece fell upon him crushing his life out almost instantly.
	28.	Joseph Burkett, ...	Miner, ...	37	S.	Wells Creek, ...	Somerset,.....	This unfortunate man was warned to pull the draw slate down, and had intended, as his brother stated, to do so, as soon as they had the car loaded; but it fell before that and killed him.
Dec.	2.	James Johns, ...	Miner, ...	35	M. W. 3	Gautier No. 3, ...	Cambria,.....	Was killed at another mine than the one in which he worked. The men in the mine where he worked had come down to this mine to get their checks for pay, and as he was coming onto the tipple, a car on the plane broke loose and a wheel flew off, which struck him on the head and killed him.
	2.	Thomas Aubry, ...	Trapper, ...	13	S.	Eureka No. 30, ...	Somerset,.....	This boy jumped on the front end of a trip of empty cars that was being pushed into the heading, and they jumped the track, and crushed his leg so that it had to be amputated, and he died in about one hour and a half after.

TABLE V--List of non-fatal accidents that occurred in and about the mines of the Sixth Bituminous District, for the year ending December 31, 1899.

Date of Accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Feb.	13. Jacob Moon,	Miner,	40	M.	Krebs,	Somerset,	Back injured by a fall of slate.
	24. John Leonard,	Driver,	24	S.	Webster No. 3,	Cambria,	Neck and shoulders injured by a fall of rock.
	28. Jas. Townsend,	Miner,	30	M.	Stineman No. 2,	Cambria,	Burned on hands, arm and face, by explosion of powder.
	28. John H. Walker,	Miner,	35	M.	Stineman No. 2,	Cambria,	Burned on hand and arm by explosion of powder.
May	2. Joseph Andekat,	Miner,	24	S.	Rolling Mill,	Cambria,	Was riding out on the dilly trip in violation of the rules of the mine, and the trip wrecked and his leg was broken.
	2. Anthony Moditz,	Miner,	24	S.	Rolling Mill,	Cambria,	Was riding out on trip and it wrecked, and his leg was fractured.
	4. Isaac Schofield,	Miner,	48	M.	Argyle,	Cambria,	Was bruised badly; caught by the empty dilly trip.
	7. Mike Shumick,	Miner,	35	M.	Souman Shaft No. 1,	Cambria,	Leg broke by coupling pin flying out, which struck him; he had been forbidden to get on the trip by the trip rider.
June	5. Louis Barbet,	Leader,	47	M.	Eureka No. 31,	Somerset,	Leg broken; he tripped and car ran over his leg.
July	19. David Wallice,	Miner,	35	M.	Webster No. 3,	Cambria,	Burned on face and hand by an explosion of gas or fire damp.
	20. Joseph Callahan,	Miner,	21	M.	Webster No. 3,	Cambria,	Burned on face and hand by an explosion of gas or fire damp.
	14. Paul Sheftsick,	Cutter,	28	M.	Rolling Mill,	Cambria,	Back hurt by a fall of bony coal.
	29. John W. Davis,	Miner,	15	S.	Puritan No. 1,	Cambria,	This accident was caused by the boy jumping on the electric motor to ride out of the mine, and in jumping off he was caught between motor and rib, which injured his spine. He was violating the rules of the mine.

	27.	Wm. Wilkingson,	Miner,	34	S.	West Branch,	Cambria,	These four persons were burned by powder. They were in an empty car next to motor, and one of them had a can of powder, which ignited; some one was smoking or a spark from lamp ignited powder.
	27.	Gust Ryheart,	Miner,	26	M.	West Branch,	Cambria,	
	27.	Charles Herbert,	Brakeman on motor,	22	S.	West Branch,	Cambria,	
	27.	Samuel Kelly,	Miner,	27	M.	West Branch,	Cambria,	
	31.	Guy Carmell,	Sprager,	23	S.	Eureka No. 32,	Somerset,	Was squeezed between motor and rib.
Aug.	9.	John Tomko,	Scraper,	25	M.	Eureka No. 31,	Somerset,	Leg broken by a fall of coal.
Sept.	11.	David Kelly,	Miner,	22	S.	Stineman No. 2,	Somerset,	Kelly and the six persons named were crowded in a car next to the motor on the first trip in the morning going into the mine, and in this car was a can with five pounds of powder in it, which in some way ignited and burned every one of them. One of the boys, Dryden Peal, was burned severely; the others slightly.
	11.	Wm. Paul,	Miner,	18	S.	Stineman No. 2,	Somerset,	
	11.	Dryden Peal,	Miner,	15	S.	Stineman No. 2,	Somerset,	
	11.	Albert Noon,	Miner,	16	S.	Stineman No. 2,	Somerset,	
	11.	William Gauly,	Miner,	16	S.	Stineman No. 2,	Somerset,	
	11.	Herbert Rice,	Miner,	14	S.	Stineman No. 2,	Somerset,	
	11.	Wm. Rice,	Miner,	16	S.	Stineman No. 2,	Somerset,	
	21.	John Dobraska,	Driver,	20	S.	Allport No. 1,	Somerset,	Leg broken below knee; car jumped the track and caught his leg.
	22.	Steve Potlasky,	Miner,	37	S.	Lancashire No. 3,	Somerset,	Hip dislocated by being caught by a fall of coal.
	22.	Steve Gorko,	Miner,	35	M.	Lancashire No. 3,	Somerset,	Collar bone broken and right ear torn nearly off by a fall of coal; both these men hurt by same fall.
Oct.	20.	Julian Molesker,	Scraper,	24	M.	Columbian,	Somerset,	Foot caught in electric machine chain and crushed.
Nov.	20.	John Miketo,	Miner,	40	S.	Empire,	Somerset,	Leg broken above ankle by a lump of coal striking his leg while he was loading a car.
Dec.	23.	Thomas McGarvey,	Brakeman on motor,	19	S.	Rolling Mill,	Somerset,	Was severely injured on legs and shoulders; he fell under empty car.
	30.	George Popovitch,	Miner,	28	S.	Yellow Run Shaft,	Somerset,	Leg broken above knee by a fall of coal.

Seventh Bituminous District.

ALLEGHENY AND WASHINGTON COUNTIES.

Idlewood, Pa., February 28, 1900.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: I have the honor of presenting my annual report as Inspector of Mines for the Seventh Bituminous district for the year 1899.

During the past year the coal trade throughout the district has enjoyed a season of unusual activity, most of the mines having been worked at nearly full time; also there has been a material increase in the market value of the product, a condition much to be desired, coming as it did after several years of close competition and unremunerative business. The total production as reported to this office amounts to 6,489,157 tons, an increase of 545,590 tons over that of the previous year. The tonnage for the ensuing year promises to be equally as large if it be not exceeded.

Most of the mining properties have changed hands during the year, and on that account great difficulty has been experienced in collecting the statistical returns, and considerable estimating and guess work had to be resorted to in making up said returns, and I have good reason to believe that at least in some instances the tonnage reported is below the actual production; however, I have no data by which to verify this beyond a comparison of the returns with those from other mines where the figures are known to be correct.

The number of fatalities in and about the mines was 28, and 64 persons were injured. This is an increase of 2 fatal and a decrease of 2 non-fatal as compared with the number of accidents for the previous year, but comparing the tonnage with the production for 1898, I find the death rate and personal injuries for last year to be less than for the previous year.

A brief description of the condition of the several groups of mines in the district, also short articles on other matters connected with the mining interest, together with the usual tabulated statements are embodied in this report. All of which is respectfully submitted.

Yours respectfully,

JAMES BLICK,
Inspector.

Summary of Statistics.

Number of mines in the district,	71
Number of mines in operation during 1899,	64
Number of tons of coal produced,	6,489,157
Number of tons shipped,	6,154,052
Number of tons used for steam at mines,	52,492
Number of tons sold to employes and others,	153,964
Number of persons employed inside the mines,	7,520
Number employed outside the mines,	870
Number of fatal accidents,	28
Number of tons of coal produced per fatal accident,	231,755 6
Number of non-fatal accidents,	64
Number of tons of coal produced per non-fatal accident,	101,393
Number of persons employed per fatal accident,	300
Number of persons employed per non-fatal accident,	131
Number of wives made widows by accidents,	16
Number of children orphaned by accidents,	39
Number of kegs of powder used,	9,545
Number of pounds of dynamite used,	845
Number of cylindrical boilers in use,	73
Number of tubular boilers,	90
Number of steam locomotives,	5
Number of electric locomotives,	22
Number of horses and mules in use,	643

Production of Coal in Tons During the Year 1899.

C. Jutte Co.,	61,481
W. S. B. Hays,	12,000
Harrison Gas Coal Co.,	59,309
Hays Coal Co.,	13,579
Joseph Walton & Co., incorporated,	178,011
Pittsburgh and Castle Shannon R. R. Co.,	77,321
Thos. Fox Estate,	12,122
Mansfield Coal and Coke Co.,	324,790
Egar Brothers & Snyder,	21,720
Mankedick Coal Co.,	30,000
Vulcan Coal Co.,	254,370
McFetridge Brothers,	137,057
Brackenridge Coal Co.,	38,000
P. S. M. Co.,	130,149
Freeport Coal Co.,	10,825
Pittsburgh Coal Co.,	5,128,423
Total,	6,489,157

The total production was made up as follows:

	Tons.
Shipped to market,	6,154,052
Used for steam and heat at mines,	52,492
Sold at mines for local use,	153,964
Used by the P. S. M. Co. in their own works,	129,149
Total,	6,489,657
Mined but not shipped in 1898,	500
Corrected total,	6,489,157

TABLE A—Showing the Production of Coal, the number of Persons Employed by each Company during the year 1899, and the Average number of Tons Produced per Employe.

Names of Companies	Number of tons produced.	Number of persons employed.
C. Jutte Co.,	61,481	149
W. S. B. Hays,	12,000	12
Harrison Gas Coal Co.,	59,369	63
Hays Coal Co.,	13,579	205
Joseph Walton & Co., Incorporated,	178,011	247
Pittsburgh and Castle Shannon Railroad Co.,	77,321	110
Thos. Fox Estate,	12,122	21
Mansfield Coal and Coke Co.,	324,780	315
Egar Brothers & Snyder,	21,720	43
Mankedick Coal Co.,	30,000	78
Vulcan Coal Co.,	254,370	230
McFetridge Bros.,	137,057	145
Brackenridge Coal Co.,	38,000	51
Freeport Coal Co.,	10,825	21
P. S. M. Co.,	130,149	157
Pittsburgh Coal Co.,	5,128,423	6,534
Total,	6,489,157	8,390

Number of tons produced per employe, 773.4.

TABLE B—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
C. Jutte Co.,		
W. S. B. Hayes,		
Harrison Gas Coal Co.,	1	59,309
Hays Coal Co.,		
Joseph Walton & Co., Incorporated,		
Pittsburgh & Castle Shannon Railroad Co.,		
Thos. Fox Estate,		
Mansfield Coal and Coke Co.,	2	162,395
Egar Brothers & Snyder,		
Mankedick Coal Co.,		
Vulcan Coal Co.,		
McFetridge Bros.,		
Brackenridge Coal Co.,	1	38,000
Freeport Coal Co.,		
P. S. M. Co.,	1	139,149
Pittsburgh Coal Co.,	23	222,975
Total and average,	28	231,735.6

Causes of Accidents.	Fatal.	Non-fatal.	Total.
By falls of coal,	1	2	3
By falls of slate,	16	37	53
By falls of roof,	5	4	9
By cars,	4	13	17
By explosion of gas,		1	1
By electricity,	1		1
By mining machines,		2	2
By machinery general,	1	1	2
By falling down shafts,		1	1
Miscellaneous,		3	3
Total,	28	64	92

TABLE C—Showing the number of Fatal and Non-fatal Accidents, and the number of Tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Number of tons of coal produced per accident.
C. Jutte Co.,	1	61,481
W. S. B. Hays,		
Harrison Gas Coal Co.,	1	59,369
Hays Coal Co.,		
Joseph Walton & Co., Incorporated,	1	178,911
Pittsburgh and Castle Shannon Railroad Co.,		
Thos. Fox Estate,		
Mansfield Coal and Coke Co.,	7	46,298
Egar Brothers & Snyder,		
Mankedick Coal Co.,		
Vulcan Coal Co.,	5	50,878
McFetridge Bros.,		
Brackenridge Coal Co.,	1	38,000
Freeport Coal Co.,	1	10,525
P. S. M. Co.,	1	130,149
Pittsburgh Coal Co.,	74	69,303
Total and average,	92	70,534

TABLE D—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured.	Injured.	Totals.
Falls of coal, slate and roof,	22	43	65
Explosions of gas,		1	1
By mining machinery,			
By mules,			
By cars inside,	4	12	16
By falling down shafts,		1	1
By electric wires,	1		1
Miscellaneous inside,			
By cars outside,		1	1
Miscellaneous outside,	1		1
Totals,	28	64	92

TABLE E—Occupations of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Totals.
Miners,	21	44	65
Drivers,	1	9	10
Machine runners,	1	4	5
Miners' boys or helpers,	3	2	5
Door boys,	.....	1	1
Company men inside,	1	2	3
Engine drivers,	1	1	2
Outside laborers,	.....	1	1
Totals,	28	64	92

TABLE F—Nationalities of Persons Killed and Injured.

	Americans.	English.	Scotch.	Irish.	Poles.	Slavs.	Hungarians.	Italians.	Russians.	Germans.	French.	Belgians.	Bohemians.	Totals.
Killed,	4	.....	2	1	5	5	.....	2	1	2	1	1	1	28
Injured,	16	4	.....	4	4	3	12	5	5	6	2	3	.....	64
Totals,	20	4	2	5	9	8	12	7	6	8	3	7	1	92

TABLE—Giving names of mines, methods of haulage and ventilation, type of fan, capacity in cubic feet, drift, shaft or slope, pick or machine mine.

Name of Mine.	Name of Company.	System of Haulage.	Method of Ventilation.	Name of Fan.
Bellwood,	C. Jutte Co.,	Mules,	Furnace.	
Calhoon,	S. B. Hays,	Mules,	Furnace.	
Streets Run,	Harrison Gas Coal Co.,	Mules,	Furnace.	
Hays Street Run Nos. 2 and 3,	Hays Coal Co.,	Mules,	Furnace.	
Becks Run,	Hays Coal Co.,	Wire rope,	Furnace.	
Walton,	Josh. Walton & Co.,	Wire rope,	Fan,	Pollock.
Castle Shannon,	Castle Shannon R. R. Co.,	Mules,	Furnace.	
Fox,	Thos. Fox Estate,	Wire rope,	Fan,	Irwin.
Mansfield No. 2,	Mansfield Coal and Coke Co.,	Wire rope and electric motor,	Fan,	Wilson.
Grant,	Eger Bros. & Snyder,	Mules,	Furnace.	
Pine Ridge,	Mankedick Coal Co.,	Mules,	Furnace.	
Vulcan,	Vulcan Coal Co.,	Electric motor,	Fan,	Capell
Hite,	McFetridge Bros.,	Wire rope,	Fan,	Capell
West Tarentum,	McFetridge Bros.,	Mules,	Furnace.	
Brackenridge,	Brackenridge Coal Co.,	Mules,	Furnace.	
Freeport,	Freeport Coal Co.,	Mules,	Furnace.	
Natrona Nos. 1 and 2,	P. S. M. Co.,	Wire rope,	Two fans,	Pollock and Brazil.
Idlewood,	Pittsburgh Coal Co.,	Mules,	Furnace.	
Fort Pitt,	Pittsburgh Coal Co.,	Electric motor,	Furnace.	
Boyd,	Pittsburgh Coal Co.,	Mules,	Furnace.	
Cherry,	Pittsburgh Coal Co.,	Electric motor,	Furnace.	
Oak Ridge,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Brazil.
National,	Pittsburgh Coal Co.,	Wire rope,	Furnace.	
Champion,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Capell.
Willow Grove,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Brazil.
Laurel Hill No. 1,	Pittsburgh Coal Co.,	Electric motors,	Fan,	Vulcan.
Laurel Hill No. 2,	Pittsburgh Coal Co.,	Electric motor,	Fan,	Vulcan.
Laurel Hill No. 1,	Pittsburgh Coal Co.,	Electric motor,	Fan,	Brazil.
Nickel Plate,	Pittsburgh Coal Co.,	Wire rope,	Furnace.	
Brier Hill,	Pittsburgh Coal Co.,	Wire rope,	Furnace.	
Jumbo,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Vulcan.
Black Diamond,	Pittsburgh Coal Co.,	Mules,	Furnace.	
Primrose,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Capell.
Midway,	Pittsburgh Coal Co.,	Mules,	Fan,	Brazil.
Enterprise,	Pittsburgh Coal Co.,	Wire rope and steam locomotive,	Fan,	Vulcan.
Nixon,	Pittsburgh Coal Co.,	Electric motor,	Furnace.	
Leasdale,	Pittsburgh Coal Co.,	Wire rope,	Furnace.	
Summer Hill,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Wilson.
Bower Hill,	Pittsburgh Coal Co.,	Mules,	Furnace.	
Bridgeville,	Pittsburgh Coal Co.,	Electric motor,	Fan,	Vulcan.
Hastings Slope,	Pittsburgh Coal Co.,	Mules,	Fan,	Brazil.
Provident,	Pittsburgh Coal Co.,	Mules,	Fan,	Brazil.
Bean,	Pittsburgh Coal Co.,	Electric motor,	Furnace.	
Allison,	Pittsburgh Coal Co.,	Mules,	Furnace.	
Enterprise No. 2,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Brazil

TABLE--Giving names of mines, methods of haulage, ventilation, etc.—Continued.

Name of Mine.	Name of Company.	System of Haulage.	Ventilation—Fan or Furnace.	Name of Fan.
North Western,	Pittsburgh Coal Co.,	Mules,	Fan,	Clark.
Morgan,	Pittsburgh Coal Co.,	Mules,	Fan,	Pollock.
Laurel Hill No. 5,	Pittsburgh Coal Co.,	Mules,	Fan,	Vulcan.
Creedmore,	Pittsburgh Coal Co.,	Mules,	Fan,	Wilson.
Ridgway,	Pittsburgh Coal Co.,	Mules,	Fan,	Wilson.
Pan Handle,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Brazil.
Esser, No. 1,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Vulcan.
Beadling,	Pittsburgh Coal Co.,	Electric motors,	Fan,	Vulcan.
Lake Superior,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Capell.
C I C,	Pittsburgh Coal Co.,	Mules,	Furnace.	
Essen No. 2,	Pittsburgh Coal Co.,	Electric motor,	Fan,	Robinson.
Essen No. 3,	Pittsburgh Coal Co.,	Electric motor,	Fan,	Capell.
Federal,	Pittsburgh Coal Co.,	Mules,	Fan,	Brazil.
Hackney,	Pittsburgh Coal Co.,	Electric motor,	Fan and furnace,	Brazil.
Mount Run,	Pittsburgh Coal Co.,	Electric motors,	Fan and furnace,	Capell.
Jackson,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Capell.
Margerum,	Pittsburgh Coal Co.,	Mules,	Furnace.	
Mentoure,	Pittsburgh Coal Co.,	Wire rope,	Furnace.	
Partridge,	Pittsburgh Coal Co.,	Mules,	Fan,	Clark.
Ormsby,	Pittsburgh Coal Co.,	Steam and electric locomotives,	Furnace.	
Lick Run,	Pittsburgh Coal Co.,	Mules,	Fan,	Brazil.
First Pool No. 1,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Vulcan.
First Pool No. 2,	Pittsburgh Coal Co.,	Mules,	Fan,	Capell.
Pine Creek,	Pittsburgh Coal Co.,	Mules,	Fan,	Pollock.
Venture,	Pittsburgh Coal Co.,	Wire rope,	Fan,	Vulcan.

TABLE—Giving names of mines, methods of haulage, ventilation, etc.—Continued.

Names of Mines.	Approximate Capacity in Cubic Feet of air per Minute.	Drift, Shaft or Slope.	Pick or Machine.	Type of Machine.
Bellwood,	30,000	Drift,	Pick.	
Calhoon,	8,000	Drift,	Pick.	
Streets Run,	15,000	Drift,	Pick.	
Hays Street Run Nos. 2 and 3,	70,000	Drifts,	Pick.	
Becks Run,	50,000	Drift,	Pick.	
Walton,	60,000	Drift,	Pick.	
Castle Shannon,	25,000	Drift,	Pick.	
Fox,	20,000	Drift,	Pick.	
Mansfield No. 2,	100,000	Drift,	Machine in part	Electric.
Grant,	10,000	Drift,	Pick.	
Pine Ridge,	25,000	Drift,	Pick.	
Vulcan,	200,000	Slope,	Machine in part	Electric.
Jute,	70,000	Drift,	Pick.	
West Tarentum,	30,000	Drift,	Pick.	
Brackenridge,	18,000	Drift,	Pick.	
Freeport,	8,000	Drift,	Pick.	
Natrona Nos. 1 and 2,	Each 50,000	Drifts,	Machine in part,	Compressed air.
Idlewood,	15,000	Drift,	Pick.	
Fort Pitt,	30,000	Drift,	Machine in part,	Electric.
Boyd,	18,000	Drift,	Machine in part,	Electric.
Cherry,	30,000	Drift,	Machine in part,	Electric.
Oak Ridge,	30,000	Drift,	Machine in part,	Compressed air.
National,	30,000	Drift,	Machine in part,	Electric.
Champion,	120,000	Drift,	Machine in part,	Compressed air.
Willow Grove,	40,000	Drift,	Pick.	
Laurel Hill No. 1,	80,000	Drift,	Machine in part,	Electric.
Laurel Hill No. 2,	80,000	Shaft,	Machine in part,	Electric.
Laurel Hill No. 4,	80,000	Shaft,	Machine in part,	Electric.
Nickel Plate,	35,000	Drift,	Machine in part,	Compressed air.
Brier Hill,	50,000	Drift,	Pick.	
Jacobs,	70,000	Drift,	Machine in part,	Compressed air.
Black Diamond,	10,000	Drift,	Pick.	
Primrose,	100,000	Drift,	Machine in part,	Compressed air.
Midway,	30,000	Drift,	Pick.	
Enterprise,	125,000	Drift,	Machine in part,	Compressed air.
Nixon,	50,000	Drift,	Machine in part,	Electric.
Leasdale,	25,000	Drift,	Machine in part,	Electric.
Summer Hill,	50,000	Drift,	Machine in part	Electric.
Bower Hill,	20,000	Drift,	Pick.	
Bridgeville,	80,000	Drift,	Machine in part,	Electric.
Hastings Slope,	30,000	Slope,	Machine in part,	Electric.
Provident,	30,000	Shaft,	Pick.	
Boen	22,000	Shaft,	Machine in part,	Electric
Allison,	30,000	Drift,	Pick.	
Enterprise No. 2,	25,000	Slope,	Pick.	
North Western,	15,000	Shaft,	Machine in part,	Electric.

TABLE—Giving names of mines, methods of haulage, ventilation, etc.—Continued.

Name of Mines	Approximate Capacity in Cubic Feet of air per Minute.	Drift, Shaft or Slope.	Pick or Machine.	Type of Machine.
Morgan	40,000	Slope,	Machine in part,	Electric.
Laurel Hill No. 5	55,000	Shaft,	Machine in part,	Electric.
Creedmore	100,000	Shaft,	Machine in part,	Compressed air.
Ridgeway	100,000	Slope,	Machine in part,	Compressed air.
Pan Handle	60,000	Drift,	Machine in part,	Compressed air.
Essen No. 1	70,000	Drift,	Pick.	
Rossiter	50,000	Slope,	Machine in part,	Compressed air.
Lake Superior	80,000	Slope,	Machine in part,	Electric.
O. J. C.	16,000	Drift,	Machine in part,	Electric.
Essen No. 2	60,000	Slope,	Machine in part,	Electric.
Essen No. 3	110,000	Slope,	Machine in part,	Electric.
Federal	38,000	Drift,	Pick.	
Hickman	Total, 65,000	Drift,	Machine in part,	Electric.
Moon Run	Total, 112,000	Drift,	Machine in part,	Electric and compressed air.
Princess	100,000	Drift,	Machine in part,	Compressed air.
Margaret	28,000	Drift,	Machine in part,	Electric.
Montours	40,000	Drift,	Pick.	
Partridge	20,000	Drift,	Machine in part,	Electric.
Ormsby	50,000	Drift,	Machine in part,	Electric.
Lick Run	25,000	Slope,	Machine in part,	Electric.
First Pool No. 1	110,000	Drift,	Machine in part,	Compressed air.
First Pool No. 2	220,000	Shaft,	Machine in part,	Compressed air.
Pine Creek	30,000	Slope,	Pick.	
Venture	80,000	Drift,	Pick.	

Remarks on Changes in Ownership of Mines.

Early in the year a project was set on foot by a number of interested parties to provide ways and means to purchase all the mining properties in the Pittsburgh region adjacent to and shipping their product by the several railroads passing through the coal territory. The idea being to bring the business of coal mining in the district as far as possible under the control of one company, and with this end in view negotiations were opened with the various mine owners and operators, who were solicited to name the price and terms upon which they would be willing to dispose of their property. It was found that most of the operators were favorable to the consolidation of their interest, and after several months of perseverence with the negotiations, all difficulties were overcome and the deal was consummated the owners exchanging their properties for either cash or stock in the new company, according to their wishes. The new company is known as the "Pittsburgh Coal Company," which company now owns most of the mines in this district, also quite a number of mines located in other inspection districts. Opinions are freely expressed relative to the probable effect the consolidation will have upon the coal business in the future. I am inclined to think that most people who are familiar with the chaotic condition of the coal mining industry of this region for a number of years past resulting from excessive competition, will feel disposed to heartily congratulate the promoters of the new company upon their achievement. The parties intrusted with the guardianship of the company's interests are conservative business men familiar with the coal trade in all its details, and it is not likely they will attempt to burden the public by charging them excessive or unjust rates for their coal supply. For a number of years past the product of the mines had been sold for a mere nominal sum, which afforded neither profit to the operators nor living wages for the miners, but it is to be hoped that this state of affairs is past. I think the public have a right and are willing to pay such reasonable rates for their coal supply, as will enable the mine owners to pay a fair rate of wages to the miners and retain a reasonable margin of profit on their invested capital, besides a sum sufficient to maintain their mines in a safe and healthful condition, so far as is possible to insure safety.

I have no sympathy with the statement sometimes heard to the effect that consolidation of the mining industry will be detrimental to the welfare of miners. The evidence and facts in the case point to the contrary opinion. The tonnage and dead work scale rates which go into effect on April 1 shows a very handsome increase above present ones. After the above date, the miners and other persons employed in and about the mines will receive a higher wage rate

than has prevailed for many years. I have very grave doubts if such favorable terms in the wage scale could have been obtained, had the consolidation of the coal mining business of western Pennsylvania not been effected. I know of instances in the past where I could detect in the management a seeming disposition to sacrifice health and safety in order to keep foremost in the race of ruinous competition, which has been a curse to the coal business in this section for so many years.

Some of the mines are not in as good condition now as they were one year ago, this has resulted indirectly from the transfer of the mines from the previous owners to the new company. In a number of instances where owners saw a prospect to dispose of their property on favorable terms, they discontinued all improvements and managed their mines on a kind of a go-as-you-please method. It will take some time to overcome the effects of a few months of such management, but I can truthfully say that the general manager of the new company is steadily persevering along the line of improvement, and I expect within a reasonable time to see the sanitary condition of most of the mines brought up to a high standard.

There has been no accident in the district during the year involving the loss a number of lives at the same time, such as generally results from gas explosions, mine fires, etc., but such accidents are not unknown, and are always among the possibilities. In nearly every case where I have been called upon to render assistance at accidents of this nature where loss of life has occurred, I have found the same serious defect to exist in the management, namely, a want of tact in organizing and directing a relief or rescue party, too much dependance being placed upon outside parties and the Inspector of the district, who may be unable to reach the mine in time to render assistance in rescuing any who may have survived the accident, and who might possibly be saved if relief measures were promptly set in motion. Upon the important question as to who should be the proper party to take charge and assume responsibility upon such occasions, opinions differ. Some think that the mine foreman is the proper person to assume direction and take all responsibility, and while that opinion or statement is based upon reason, still they forget that the mine foreman is liable to be overwhelmed in the accident with his men, and if not killed, may himself be in need of succor, together with those entombed with him. Who then should be depended upon to extend aid and effect a rescue if that were possible? certainly not the Inspector, for he is not there, neither can it be expected that he has perfect knowledge of every detail connected with any particular mine or number of mines. My own opinion in regard to the matter is, that the superintendent is the person who should be looked to and depended upon for guidance in all mine calamities or cases of

emergency. I would suggest that all mine superintendents would do well, first to direct that all known precautions be enforced to protect life and property, and second, to anticipate such emergencies as are liable to arise in mining operations, and to decide in a general way, in his own mind, the proper methods to pursue in case he should be called upon to deal with a gas explosion, mine fire or any other disaster that might occur at any mine under his charge. If any should feel his inability to act along the line as here suggested, I would advise that he begin at once to seek diligently for such knowledge, both practical and theoretical, that is an absolute necessity with other essential qualifications to fit him to become a competent, successful mine superintendent in the proper acceptation of the term. The above remarks are in many respects as applicable to the mine foreman as to the superintendent, but it must not be forgotten that the position of superintendent is generally permanent, while that of the mine foreman is oftentimes transitory.

Mine Fires at the Jumbo and Hite Mines.

On the night of Feb. 21, a fire was discovered near the face of one of the working entries in the Jumbo mine. At the end of the shift, just before leaving the mine, the miners who worked in the entry, fired a blast in the coal which liberated and ignited a strong feeder of gas, and the burning gas set fire to the coal. The fire was discovered some hours afterwards by the night pump man, who at once notified the mine officials, but upon their arrival it was found that the fire was burning fiercely, being fed by strong gas feeders, and they could not approach it to extinguish it. Bulkheads were then built as near as possible to the seat of the fire to exclude air and prevent the fire from spreading, and an iron pipe was placed through one of the bulkheads to allow the penned up gas to escape. The area of the fire remained sealed for several weeks, large volumes of gas passing off through the pipe the whole time. An opening was then made through one of the stoppings, and two of the mine officials proceeded forward toward the location of the fire, conducting an air-current with them by using canvas cloth to construct a temporary airway. They succeeded in reaching it within a short distance of where the fire originated and found that it was extinguished. The airways were then thrown open and the gas removed. Upon a close examination of the workings it was found that the fire had not extended any great distance, and the damage done to the mine was trifling.

The fire in the Hite mine was discovered early on the morning of July 29, and was located in a part of the mine workings that had been in operation the previous day. The fire was burning furiously,

and extending so rapidly that it was impossible to approach it, and exceedingly dangerous to attempt to do so, on account of continuous heavy roof falls, which were caused by the intense heat from the burning coal and roof. Bulkheads were constructed as near to the fire as possible. A pipe was inserted through one of the walls to provide for the escape of the penned up explosive gas, which was considerable in quantity, owing to the large area of workings walled off. In about three weeks after the mine workings affected by the fire had been closed up, it was deemed best to build other strong walls close to those already in position, and connect the mine pump with a pipe built in the wall for that purpose, and to flood the inclosed workings with water. The location was favorable for flooding, there being a descending grade from the bulkheads to the point where the fire was located. It took about four weeks to fill the space with water, but once accomplished it was absolutely certain that the fire was extinguished. When the water was pumped out and the workings examined, it was found that the fire had caused great damage to the mine, a considerable part of the workings being closed up by heavy roof falls, which proved conclusively that the fire could not have been extinguished within a reasonable time by any method other than flooding. The origin of this fire is uncertain, but some of the mine officials were of the opinion that the mine was set on fire by some evil disposed person, and some things observed when inspecting the workings after the fire was extinguished would indicate that they were correct. This suspicion was strengthened by the fact that another serious fire is now raging in an adjacent section of the mine workings, the origin of which there is reason to believe can be traced to incendiarism. This last fire was discovered on the night of January 25, 1900, and according to present indications, considerable time must elapse before it can be extinguished. The location precludes the possibility of flooding with water, the only alternative being to keep it walled off for an indefinite time. Mine fires, in addition to entailing great expense upon the operators, are often attended with considerable danger to the workmen, especially is this the case in mines producing explosive gas, and all known precautions should be taken to prevent their occurrence, but when they do occur, the greatest vigilance should be exercised to discover and subdue them before they spread to such an extent as to become beyond control. Most mine fires result from the ignition of gas feeders caused by powder blasts in the coal, and when this occurs during working hours it is generally discovered and extinguished without much difficulty, but when fires result from blasts set off at the end of the shift, and they not discovered until the following morning, the fire is then oftentimes beyond control. This could be obviated to a very great extent if competent night watchmen

were employed, whose duty it should be to travel through and inspect the mine workings after working hours. In some instances this precaution is observed, and at such mines extensive fires are not likely to occur.

DESCRIPTION OF MINES.

Mines on the Monongahela River, on the Wheeling Division of the B. & O. R. R., and on the Little Saw Mill Run R. R.

There are fifteen mines in this division of the district. The Becks Run mine was not in operation at any time during the year, and the time worked at Hays Street Run Nos. 2 and 3 was only 53 days. All of the other mines were operated at nearly full time. The general condition of the mines in this part of the district was satisfactory when last inspected. At the first Pool No. 2 mine a 13.5′ by 7′ double inlet Capell fan has been installed, which is now in operation. The maximum capacity of this fan in cubic feet of air per minute is about 250,000; previously this mine was supplied with ventilation from a 25′ Vulcan fan located at No. 1 mine, which fan is now used exclusively to ventilate No. 1 and the territory formerly known as No. 3, all of which is now included in the workings of No. 1 mine. The ventilating power at these mines is now ample to meet all requirements, and good sweeping air currents are being forced through all the workings.

Mines Located Along the Main Line of the Pan Handle Railroad.

There are eighteen mines located along the above railroad, five of which have been idle throughout the year. Very little work has been done at the Idlewood mine, but all of the others have been in active operation most of the time. New ventilating furnaces have been built at the Fort Pitt and Cherry mines, both of which are now well supplied with ventilation. The condition of the Laurel Hill No. 1 mine during the former part of the year was very unsatisfactory, so much so that I considered it unsafe to operate one section of the mine workings, by reason of the air volume being insufficient to carry off and render harmless the explosive gas as fast as it was generated. I called the attention of the Superintendent to the dangerous condition of that part of the mine workings, and requested that operations therein should cease at once, which request was complied with. I then called upon Inspectors Adams and Ross, and after a careful inspection of the mine, we all concurred in the opinion that it was unsafe to operate the sections of workings in question, until the same was properly ventilated, and we notified the operator to that effect, and he agreed not to resume operations until sufficient ventilation was provided. I may say that previous to this time I had on several occasions told the mine owner that the time was not far distant

when it would be unsafe to operate the mine, unless radical improvements were made in the method of ventilation, but there was nothing done in the way of permanent improvements until after I had taken action as above described. They finally commenced to sink a shaft at the face of the mine workings. This shaft is now sunk through into the mine, and the fan will be removed from its present location to the new shaft at once, and the mine will again be in full operation in the near future. All of this property, which consists of four mines, is now owned and operated by the Pittsburgh Coal Company, and the managers of this company are making strenuous efforts to improve the sanitary conditions and place the property upon a paying basis, which will be no easy task after so many years of haphazard management, during which time the mines have been worked without system or method, the only object being to get all possible to-day and let to-morrow provide for itself.

In the National Mine an entry was driven to tap and drain off a large body of water, about 200 acres in extent, from the adjoining mine. Drill holes were kept in the face and sides of the passageway at short distances apart, some of which were drilled into the coal over twenty feet, finally the drill penetrated into the water in one of the side holes, when bored a distance of only eleven feet, the hole being in close proximity to one that had penetrated into the coal for a distance of more than sixteen feet. The head of water was about sixteen feet, and according to the excavations shown on the plan of the old mine, it was reached about three hundred feet sooner than expected, which shows the utter fallacy of placing any dependence upon maps of old mines that were abandoned many years ago.

Mines Situated Along the Chartiers Valley and Miller's Run Branches of the Pan Handle Railroad.

The number of mines in this division of the district is nineteen, all of which with two exceptions have been operated at nearly full time during the past year. The Laurel Hill Nos. 2, 4 and 5 mines are located in this part of the district. No. 2 has not been operated at any time during the year, the workings are all flooded, the water having risen some distance up the shaft. Efforts are now in progress to pump the water out with a view of resumption of operations. This is comparatively a new mine, but on account of continuous bad management it is now simply a hole in the ground and hardly worthy to be called a mine. The condition of the underground workings are such as will require a vast amount of labor and a large outlay of money before operations can be resumed with any prospect of reaping a profit or even paying running expenses. It may also be said that the outside arrangements are about on a par with the inside. To

describe the condition of No. 4 mine would be only to repeat what I have already said in reference to Nos. 1 and 2. No. 5 mine when purchased from the original owners about two years ago was at that time in good condition, but two years of very bad management has left their mark, which will require time, labor and expense to efface.

The new type of fan erected, last year, at the Summer Hill mine is not proving satisfactory and will have to be discarded. They are now making arrangements to sink a shaft at a central point of the coal field, and to place a powerful Capell fan on top of said shaft, and ventilate Summer Hill, Nixon and Essen No. 1 mines by this one fan, which can be done to much better advantage than by having a separate ventilator for each mine. The Boon mine is also in need of a more powerful ventilating apparatus. The sanitary condition of the other mines in this section of the district is reasonably satisfactory.

Mines Located Along the P. C. & Y. R. R.

There are nine mines in this part of the district, eight of which have been in active operation during the year, and one has not been operated for the past three years. A Capell fan has been installed at the Lake Superior mine, which is giving satisfaction, and the mine workings are now supplied with plenty of pure air.

Improvements to increase the ventilation are needed at the Pan Handle and Beadling mines. The airways in both mines are in poor condition and not equal to the requirements, but this defect can be overcome by sinking an air shaft at the face of the workings in each mine.

Other mines in this section of the district are in reasonably good condition.

Mines Located on the Moon Run Railroad, on the Montour Railroad and West of the Allegheny River.

There are twelve mines located in this section of territory. On each inspection visit made to these mines during the year the sanitary conditions in most cases were satisfactory. At West Tarentum mine a shaft has been sunk and a ventilating furnace built, which will produce ample ventilation and keep the workings in a safe and healthful condition.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Seventh Bituminous District, 1899.

Name of Colliery.	Name of Operator.	County.	Name of Superintendent.	P. O. Address.
Edgewood,	Pittsburgh Coal Co.,	Allegheny,	James Boyle,	Crafton.
Fort Pitt,	Pittsburgh Coal Co.,	Allegheny,	James Boyle,	Crafton.
Level,	Pittsburgh Coal Co.,	Allegheny,	James Boyle,	Crafton.
Cherry,	Pittsburgh Coal Co.,	Allegheny,	James Boyle,	Crafton.
Oak Ridge,	Pittsburgh Coal Co.,	Allegheny,	James Boyle,	Crafton.
National,	Pittsburgh Coal Co.,	Allegheny,	James Boyle,	Crafton.
Champion,	Pittsburgh Coal Co.,	Allegheny,	Beng. Fereday,	McDonald.
Willow Grove,*	Pittsburgh Coal Co.,	Allegheny,	Beng. Fereday,	McDonald.
Laurel Hill Nos. 1, 2 and 4.*	Pittsburgh Coal Co.,	Allegheny and Washington,	Beng. Fereday,	McDonald.
Nickel Plate,	Pittsburgh Coal Co.,	Allegheny,	Beng. Fereday,	McDonald.
Bear Hill,	Pittsburgh Coal Co.,	Washington,	Beng. Fereday,	McDonald.
Junior,	Pittsburgh Coal Co.,	Washington,	Beng. Fereday,	McDonald.
Primrose,*	Pittsburgh Coal Co.,	Washington,	Beng. Fereday,	McDonald.
Blue Diamond,*	Pittsburgh Coal Co.,	Washington,	Beng. Fereday,	McDonald.
Midway,*	Pittsburgh Coal Co.,	Washington,	Beng. Fereday,	McDonald.
Nine,	Pittsburgh Coal Co.,	Allegheny,	Jesse H. Sanford,	Carnegie.
Lansdale,	Pittsburgh Coal Co.,	Allegheny,	Jesse H. Sanford,	Carnegie.
Summer Hill,	Pittsburgh Coal Co.,	Allegheny,	Jesse H. Sanford,	Carnegie.
Bower Hill,	Pittsburgh Coal Co.,	Allegheny,	Jesse H. Sanford,	Carnegie.
Burgetville,	Pittsburgh Coal Co.,	Allegheny,	Jesse H. Sanford,	Carnegie.
Hastings Slope,	Pittsburgh Coal Co.,	Allegheny,	Jesse H. Sanford,	Carnegie.
Provident,	Pittsburgh Coal Co.,	Washington,	Thomas Renshaw,	Canonsburg.
Bend,	Pittsburgh Coal Co.,	Washington,	Thomas Renshaw,	Canonsburg.
Allison,	Pittsburgh Coal Co.,	Washington,	Thomas Renshaw,	Canonsburg.
Enterprise No. 2,	Pittsburgh Coal Co.,	Washington,	Thomas Renshaw,	Canonsburg.
North Western,	Pittsburgh Coal Co.,	Allegheny,	David Orr,	Carnegie.
Morgan,	Pittsburgh Coal Co.,	Allegheny,	David Orr,	Carnegie.
Laurel Hill No. 5,	Pittsburgh Coal Co.,	Allegheny,	David Orr,	Carnegie.
Courthouse,	Pittsburgh Coal Co.,	Washington,	David Orr,	Carnegie.
Ridge,	Pittsburgh Coal Co.,	Washington,	David Orr,	Carnegie.
Pan Handle,	Pittsburgh Coal Co.,	Allegheny,	Charles Fereday,	Beadling.
Essen No. 1,	Pittsburgh Coal Co.,	Allegheny,	Charles Fereday,	Beadling.
Beadling,	Pittsburgh Coal Co.,	Allegheny,	Charles Fereday,	Beadling.
Lake Superior,	Pittsburgh Coal Co.,	Allegheny,	W. P. Bates,	Carnegie.
O. I. C.,	Pittsburgh Coal Co.,	Allegheny,	W. P. Bates,	Carnegie.
Essen No. 2,	Pittsburgh Coal Co.,	Allegheny,	W. P. Bates,	Carnegie.
Essen No. 3,	Pittsburgh Coal Co.,	Allegheny,	W. P. Bates,	Carnegie.
Federal,*	Pittsburgh Coal Co.,	Allegheny,	W. P. Bates,	Carnegie.
Hickman,	Pittsburgh Coal Co.,	Allegheny,	W. P. Bates,	Carnegie.
Moon Run,	Pittsburgh Coal Co.,	Allegheny,	N. F. Sanford,	Moon Run.
Dickson,	Pittsburgh Coal Co.,	Allegheny,	J. E. Crouch,	Imperial.
Margerum,	Pittsburgh Coal Co.,	Allegheny,	J. E. Crouch,	Imperial.
Montour,	Pittsburgh Coal Co.,	Allegheny,	J. E. Crouch,	Imperial.
Partridge,	Pittsburgh Coal Co.,	Allegheny,	J. E. Crouch,	Imperial.
Ormsby,	Pittsburgh Coal Co.,	Allegheny,	Peter Keeling,	Pittsburgh.

Lick Run,	Pittsburgh Coal Co.,	Allegheny,	W. B. McCoy,	Finleyville.
First Pool Nos. 1 and 2,	Pittsburgh Coal Co.,	Allegheny,	Charlton Dixon,	Glenshaw.
Pine Creek,	Pittsburgh Coal Co.,	Allegheny,	Mathew Dixon,	Banksville.
Enterprise,	Pittsburgh Coal Co.,	Allegheny,	F. M. Fritchman,	
Venture,	Pittsburgh Coal Co.,	Allegheny,		
Castle Shannon,	C. Jutte Co.,	Allegheny,	E. J. Reamer,	Pittsburgh.
Fox,	W. S. B. Hays,	Allegheny,	Jas. T. Fox,	West End, Pittsburgh.
Mansfield No. 2,	Harrison Gas Coal Co.,	Allegheny,	Daniel Boden,	Carnegie.
Grant,	Hays Coal Co.,	Allegheny,	Edward H. Snyder,	Carnegie.
Pine Ridge,	Hays Coal Co.,	Allegheny,	John Mulooly,	Noblestown.
Vulcan,	Joseph Walton & Co., Incorporated,	Allegheny,	David Orr,	Cuddy.
Hite,	Pittsburgh & Castle Shannon R. R. Co.,	Allegheny,	G. H. McFetridge,	Hite.
West Tarentum,	Thos. Fox Estate,	Allegheny,	G. H. McFetridge,	Hite.
Brackenridge,	Mansfield Coal and Coke Co.,	Allegheny,	A. S. Hicks,	Leechburg.
Freeport,	Egar Brothers & Snyder,	Allegheny,	R. D. Crawford,	Freeport.
Natrona Nos. 1 and 2,	Mankedick Coal Co.,	Allegheny,	R. Herlein,	Natrona.
Belwood,	Vulcan Coal Co.,	Allegheny,	George Kramer,	Munhall.
Calhoun,	McFetridge Bros.,	Allegheny,	L. Hays,	Homestead.
Streets Run,	McFetridge Bros.,	Allegheny,	Wm. L. Nancarrow,	Hope Church.
Hays Street Run Nos. 2 and 3,	Brackenridge Coal Co.,	Allegheny,	John Watson,	Homestead.
Becks Run,*	Freeport Coal Co.,	Allegheny,		
Walton,	P. S. M. Co.,	Allegheny,	Morris Kapp,	Carrick.

*Not in operation any part of the year 1899.

TABLE I—Continued.

Name of Colliery.	Name of Mine Foreman.	P. O. Address.	Name of Outside Foreman.	P. O. Address.
Ellsworth.				
Fort Pitt,	Henry Cartley,	Carnegie.		
Boyd,	John Hampson,	Walkers Mills.		
Cherry,	Joseph Woolstoncroft,	Carnegie.		
Oak Ridge,	Wm. Cartley,	Oakdale.		
National,				
Champion,	James Clark,	Sturgeon.		
Willow Grove,*				
Laurel Hill Nos. 1, 2 and 4,*	Wm. Jamison,	McDonald.		
Nickel Plate,	John McKay,	McDonald.		
Brier Hill,	Joseph Fielding,	McDonald.		
Jumbo,	John Britt,	McDonald.		
Primrose,*				
Black Diamond,*				
Midway,*				
Nixon,	Wm. Linsley,	Joint.		
Leasdale,	Charles Byrne,	Carnegie.		
Summer Hill,	Henry Thompson,	Woodville.		
Bower Hill,	Wm. Underwood,	Woodville.		
Bridgeville,	John Clark,	Bridgeville.		
Hastings Slope,	Wm. Chapple,	Bridgeville.		
Provident.				
Bain,	Thos. A. Jackson,	Canonsburg.		
Allison,	Alex. McLean,	McGovern.		
Enterprise No. 2,	Mathew Herron,	Arden.		
North Western.				
Morgan,	Israel Morris,	Morgan.		
Laurel Hill No. 7,	Peter Wakinson,	Cecil.		
Creedmore,	Reuben Street,	Cecil.		
Ridgeway,	Wm. Herbertson,	Bishop.		
Pan Handle,	John A. Gray,	Borland.		
Essen No. 1,	Wm. Baker,	Essen.		
Beadling,	David Watkins,	Beadling.		
Lake Superior,	H. C. Stype,	Federal.		
O. I. C.				
Essen No. 2,	J. T. Colburn,	Federal.		
Essen No. 3,	Otto Hess,	Federal.		
Federal.*				
Hickman,	James Halliwell,	Federal.		
Moon Run,	P. Y. Cox,	Moon Run		
Dickson,	Wm. Langan,	Cliff Mine		
Margerum				
Montours,	John Kyte,	Imperial.		
Partridge,	Wm. Boustead,	Imperial.		
Ormsby,	Chas. Wilhelm,	Fair Haven.		

Lick Run,	Chas. Wilhelm,	Broughton.		
First Pool Nos. 1 and 2,	Charlton Dixon & Jas. Parnham.	Wilpack.		
Pine Creek,	Mathew Dixon,	Glenshaw.		
Enterprise,	Robert Lightburn,	Banksville.		
Venture.				
Bellwood,	Samuel Jones,	Homestead,	George Kramer,	Munhall.
Calhoon.				
Streets Run,	Thomas Ball,	Hope Church.		
Hays Street Run Nos. 1, 2 & 3,	Wm. Guthrie,	Hope Church,	John Watson,	Homestead.
Becks Run,*	Adam Kanabe,	Mount Oliver.		
Walton,	Morris Kapp,	Carrick,	John M. Kapp.	
Castle Shannon,	Samuel Pritchard.			
Fox,	James Reid,	Banksville,	Jas. Martin.	
Mansfield No. 2,	Ezra Cattley,	Joint.		
Grant,	Robert Cochran,	Carnegie.		
Pine Ridge,	John Mulooly,	Noblestown.		
Vulcan,	J. F. Suffolk,	Cuddy.		
Hite,	Wm. Wood,	Tarentum,	Wm. McFetridge,	Hite.
West Tarentum,	G. H. Summers,	Hite,	Wm. McFetridge,	Hite.
Brackenridge,	Wm. Gilson,	Natrona.		
Freeport,	R. D. Crawford,	Freeport.		
Natrona Nos. 1 and 2,	H. W. Boyd,	Natrona.		

*Not in operation any part of the year 1899.

TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Seventh Bituminous District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Pittsburgh Coal Co.												
Idlewood,	Allegheny,	4108			4,108	37	19					3
Fort Pitt,	Allegheny,	93,000	2,000	500	95,500	240	144		2			43
Boyd,	Allegheny,	84,962	587	200	85,749	279	75					
Cherry,	Allegheny,	89,339	1,300	50	90,689	257	25					
Oak Ridge,	Allegheny,	84,824	1,647		86,471	270	99		2			
National,	Allegheny,	94,098	1,100		95,198	257	106		1			6
Champion,	Allegheny,	192,383			192,383	269.87	177	2	1			18
Laurel Hill No. 1,	Allegheny,	102,557	4,020		106,577	248	235		1			33
Laurel Hill No. 4,	Allegheny,	82,539	3,118		85,657	211	101		5			13
Nickel Plate,	Allegheny,	119,927	2,472	1,000	122,799	251	192	1	1			11
Brier Hill,	Washington,	139,593	1,368	300	141,261	276	192		1			10
Jumbo,	Washington,	217,848			217,848	267.62	242	2	6			25
Nixon,	Allegheny,	143,613			143,613	199.50	175					11
Lensdale,	Allegheny,	76,591			76,591	225.25	71	2	1			11
Summer Hill,	Allegheny,	144,333			144,333	257.50	169					8
Bower Hill,	Allegheny,	52,166			52,166	145	81	1	1			8
Bridgeville,	Allegheny,	122,077			122,077	262	158		3			11
Hastings Slope,	Allegheny,	20,214			20,214	120	51					4
Provident,	Washington,	10,000			10,000	120	44					4
Boon,	Washington,	77,102			77,102	198.50	104	2		60		9
Allison,	Washington,	94,594	1,000		95,594	120.25	137	1	1	110	50	14
Enterprise No. 2,	Washington,	29,962	900		30,862	93.50	54			50		4
North Western,	Allegheny,	20,000			20,000	80	76					6
Morgan,	Allegheny,	60,681			60,681	150	134					8
Laurel Hill No. 5,	Allegheny,	116,970			116,970	230	208		2			28
Creedmore,	Washington,	118,352			118,352	200	163					16
Ridgway,	Washington,	93,000			93,000	169	166	2	1			14
Pan Handle,	Allegheny,	152,944	4,242	1,056	158,242	279	174	1	3	900		11

Essen No. 1,	Allegheny,	156,428			156,428	216	211			800		13
Bendling,	Allegheny,	164,300	3,606	500	168,500	243	154	1	2	800		7
Lake Superior,	Allegheny,	99,669	1,159	250	101,076	221	112		1	320		6
O. I. C.,	Allegheny,	41,491	650	328	4,469	232.25	101			185		5
Essen No. 2,	Allegheny,	199,671	740		200,411	166	186	3	3	667	300	8
Essen No. 3,	Allegheny,	167,954	740	200	168,894	155.50	188		3			9
Hickman,	Allegheny,	62,947	800		63,747	199.50	87			220		7
Ormsby,	Allegheny,	153,347	3,560		156,907	272	172		1			11
First Pool Nos. 1 and 2,	Allegheny,	517,096			517,096	271.75	433	1	2			27
Lick Run,	Allegheny,	63,201		1,756	64,957	216	102					6
Enterprise,	Allegheny,	79,417	670	16	80,083	165	143		2	300	200	10
Venture,	Allegheny,	88,145	982	193	89,620	184	123		2	200	20	7
Moon Run,	Allegheny,	281,298	2,064	1,614	284,976	237	383	1	1			21
Dickson,	Allegheny,	144,529	225		144,754	175.25	126					15
Margerum,	Allegheny,	18,670	909		19,579	94.62	92					9
Montours,	Allegheny,	63,017	1,035	4,500	67,552	165.75	115		2			11
Partridge,	Allegheny,	83,675	90		84,775	242	121	3				7
Pine Creek,	Allegheny,	49,855			49,855	284.50	72					6
Totals,		5,075,106	41,777	12,060	5,128,423	*218	6,534	23	51	4,672	570	485
G. Jutte Co.												
Bellwood,	Allegheny,	61,191	214	76	61,481	161	149		1			12
S. R. Hays.												
Calhoun,	Allegheny,			12,000	12,000	312	12					1
Harrison Gas Coal Co.												
Streets Run,	Allegheny,	58,004	1,088	217	59,309	305	63	1				4
Hays Coal Co.												
Hays Street Run Nos. 2 and 3,	Allegheny,	13,168	106	305	13,579	53.50	205					22
Jos. Walton & Co.												
Walton,	Allegheny,	177,011	800	200	178,011	246	247		1		50	17
Castle Shannon R. R. Co.												
Castle Shannon,	Allegheny,			77,321	77,321	249.50	116					7
Thos. Fox Estate.												
Fox,	Allegheny,		202	11,920	12,122	213	21					3
Mansfield Coal and Coke Co.												
Mansfield No. 2,	Allegheny,	321,790	2,000	1,000	324,790	279	345	2	5			29
Egar Bros. & Snyder.												
Grant,	Allegheny,			21,720	21,720	308	43					6
Mankedick Coal Co.												
Pine Ridge,	Allegheny,	30,000			30,000	269	78					4
Vulcan Coal Co.												
Vulcan,	Allegheny,	249,050	2,920	2,400	254,370	226.50	239		5	1,500	20	14

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
McFetridge Bros.												
Hite	Allegheny	119,922	2,405	1,929	124,256	282	126	.....	.....	1,205	.....	13
West Tarentum	Allegheny	.....	.....	12,801	12,801	309	19	.....	.....	153	.....	2
Totals		119,922	2,405	14,730	137,057	*295	145	.....	.....	1,358	.....	15
Brackenridge Coal Co.												
Brackenridge	Allegheny	38,000	.....	.....	38,000	310	51	1	.....	400	.....	3
Freeport Coal Co.												
Freeport	Allegheny	10,810	.....	15	10,825	305	21	.....	1	75	5	1
P. S. M. Co.												
Natrona Nos. 1 and 2	Allegheny	.....	1,000	.....	130,149	278	157	1	.....	1,600	200	20

Recapitulation.

Name of Colliery.	County.	Shipment of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules
Pittsburgh Coal Co.,	Allegheny and Washington.	5,075,106	41,757	12,060	5,128,423	218	6,534	23	51	4,612	570	485
C. Jutte Co.,	Allegheny,	61,191	211	76	61,481	161	149	.....	1	.....	.....	12
S. B. Hays,	Allegheny,	.....	.....	12,000	12,000	312	12	.....	.....	.....	.....	1
Harrison Gas Coal Co.,	Allegheny,	58,694	1,688	217	59,309	305	63	1	.....	.....	.....	4
Hays Coal Co.,	Allegheny,	13,168	105	305	13,578	53.50	205	.....	.....	.....	.....	22
Jos. Walton & Co.,	Allegheny,	177,011	800	200	178,011	246	247	.....	1	.....	50	17
Castle Shannon R. R. Co.,	Allegheny,	.....	.....	77,321	77,321	249.50	110	.....	.....	.....	.....	7
Thos. Fox Estate,	Allegheny,	.....	202	11,920	12,122	213	21	.....	.....	.....	.....	3
Mansfield Coal and Coke Co.,	Allegheny,	321,790	2,000	1,000	324,790	279	315	2	5	.....	.....	29
Edgar Bros. & Snyder,	Allegheny,	.....	.....	21,720	21,720	308	43	.....	.....	.....	.....	6
Markedick Coal Co.,	Allegheny,	30,000	.....	.....	30,000	269	78	.....	.....	.....	.....	4
Vulcan Coal Co.,	Allegheny,	249,450	2,920	2,400	254,370	226.50	239	.....	5	1,500	20	14
McFetridge Bros.,	Allegheny,	119,922	2,495	14,730	137,057	295	145	.....	.....	1,358	.....	15
Brackenridge Coal Co.,	Allegheny,	38,000	.....	.....	38,000	310	51	1	.....	400	.....	3
Freeport Coal Co.,	Allegheny,	10,810	.....	15	10,825	305	21	.....	1	75	5	1
P. S. M. Co.,	Allegheny,	.....	1,000	.....	139,149	278	157	1	.....	1,600	200	20
Total		6,154,052	52,492	153,964	6,489,157	*231	8,390	28	64	9,545	845	643

TABLE II —Continued.

Name of Colliery.	County.	Number of Boilers.				Tot. horse power.	Locomotives.		Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Electric.							
Pittsburgh Coal Co.															
Allwood	Allegheny	1	50			50					1	400	400		
Bon Ton	Allegheny			1	150	150	1		1	60				1	
Boyd	Allegheny			1	150	150					1	2,000			
Cherry	Allegheny			1	150	150	1		1	75	1	600		1	
Coal Ridge	Allegheny	1	80	1	125	205			2		2	1,500			1
National	Allegheny	2	160			160								1	
Oberpreh	Allegheny	6	300	1	100	400			3	315	6	600	600		2
Laurel Hill No. 1	Allegheny			8	825	825		2	2	250	1	600	600	2	
Laurel Hill No. 4	Allegheny			6	350	350		1	6		2	200	200	1	
Nine Plan	Allegheny	1	50	2	250	300			2	100	1	150			1
Bible Hill	Washington	3	140			140			3	156	1	100	100		
Jacobs	Washington	5	135	2	400	535			3	320	3	540	540		3
Nixon	Allegheny			2	300	300		1	2	198				1	
Lowndale	Allegheny			1	80	80			1	50					
Sunset Hill	Allegheny			2	250	250			1	235				1	
River Hill	Allegheny														
Jonesville	Allegheny														
Heritage Slope	Allegheny			4	300	300		1	2	300				2	
Pennsylvania	Washington	1	100			100			2	70	1	100	100	1	
Rea	Washington	2	50			50			2		1	100	100		
Adams	Washington	3	180			180	1		2	125				1	
Enterprise No. 2	Washington														
North Western	Allegheny	2	120			120			1	70	1	300	150		
Vesuvius	Allegheny	2	60	1	90	150			2	120	2			1	
Laurel Hill No. 2	Allegheny	2	50	1	60	110			2	150	1			1	
Crawford	Allegheny			3	255	255			2	327	2			1	
Cowden	Washington			1	425	425			2	250					
Ridgeway	Washington			3	450	450			2	300					
Big Hardy	Allegheny	6	550			550			4	560		80			
Lesco No. 1	Allegheny	2	90			90			1	200		40			
Harding	Allegheny			4	440	440		2	3	875	1	1,000	700	2	2
Lake Superior	Allegheny	2	200			200			3	330	1	200	180	1	
O. I. C.	Allegheny			2	150	150			1	150				1	

Esson No. 2,	Allegheny,	2	150			150		1	2	225	1	190	170			
Essen No. 3,	Allegheny,	3	150	4	600	750		2	6	1,015	1	80	70	3		
Hickman,	Allegheny,			1	90	90		1	2	160				1		
Grimsby,	Allegheny,	5	125	2	250	375	1	2	3	250	3	1,350	1,600	2		
First Pool Nos. 1 and 2,	Allegheny,	2	190	7	650	840			5	290	1					3
Lick Run,	Allegheny,	2	40	1	50	90			2		1	225	260	1		
Enterprise,	Allegheny,			3	300	300	1		3	300	1	50	50			1
Venture,	Allegheny,	1	60	2	120	180			4	200						
Moon Run,	Allegheny,	5	700			700		3	6	717				2		1
Dickson,	Allegheny,			4	400	400			2	160	3	210	210			1
Margerum,	Allegheny,															
Montours,	Allegheny,			2	150	150			2	150						
Partridge,	Allegheny,			2	200	200			1	150				1		
Pine Creek,	Allegheny,	2	80			80			2	80	1					
Totals,		63	3,810	80	8,110	11,920	2	19	118	9,393	51	10,623	5,170	29		24
G. Jutte Co.																
Bellwood,	Allegheny,						1									
S. B. Hays.																
Colleen,	Allegheny,															
Harrison Gas Coal Co.																
Streets Run,	Allegheny,	1	60			60			1	50						
Hays Coal Co.																
Hays Street Run Nos. 2 and 3,	Allegheny,	1	16	1	80	96	1		1	16						
Jos. Walton & Co.																
Walton,	Allegheny,	3		1					3		2					
Castle Shannon R. R. Co.																
Castle Shannon,	Allegheny,										1	90	90			
Thos. Fox Estate																
Fox,	Allegheny,	1	50			50			2	40	1	40	40			
Mansfield Coal and Coke Co																
Mansfield No. 2,	Allegheny,			3	425	425	1	1	7	825	2	350	125	2		
Edgar Bros. & Snyder																
Cassil,	Allegheny,															
Monkeybeck Coal Co.																
Fox Ridge,	Allegheny,															
Valley Coal Co.																
Valley,	Allegheny,			2	300	300		2	7	650	2	600	600	1		

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.					Locomotives.		Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.	Steam.	Electric.							
McFetridge Bros.															
Hite,	Allegheny,	2	90	2	50	140			3	115	2	250	250		
West Tarentum,	Allegheny,														
Totals,		2	90	2	50	140			3	115	2	250	250		
Brackenridge Coal Co.															
Brackenridge,	Allegheny,														
Freeport Coal Co.															
Freeport,	Allegheny,														
P. S. M. Co.															
Natrona Nos. 1 and 2,	Allegheny,	2	120	1	100	220			4	210	2	1,800			1

Recapitulation.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.		Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Electric.							
Pittsburgh Coal Co.,	Allegheny and Washington.	63	3,810	80	8,110	11,920	2	19	118	9,393	51	10,623	5,170	29	24
C. Jutte Co.,	Allegheny,						1								
S. B. Hays,	Allegheny,														
Harrison Gas Coal Co.,	Allegheny,	1	60			60			1	50					
Hays Coal Co.,	Allegheny,	1	16	1	80	96	1		1	16					
Jos. Walton & Co.,	Allegheny,	3		1					3		2				
Castle Shannon R. R. Co.,	Allegheny,										1	90	90		
Thos. Fox Estate,	Allegheny,	1	50			50			2	40	1	40	40		
Mansfield Coal and Coke Co.,	Allegheny,			3	425	425	1	1	7	825	2	350	125	2	
Egar Bros. & Snyder,	Allegheny,														
Mankedick Coal Co.,	Allegheny,														
Vulcan Coal Co.,	Allegheny,														
McFetridge Bros.,	Allegheny,	2	90	2	300	300		2	5	650	2	600	600	1	
Brackenridge Coal Co.,	Allegheny,			2	50	140			3	115	2	250	250		
Freeport Coal Co.,	Allegheny,														
P. S. M. Co.,	Allegheny,	2	120	1	100	220			4	210	2	1,800			1
Total,		73	4,146	90	9,065	13,211	5	22	144	11,299	63	13,753	6,275	32	25

*Average.

TABLE III—Showing the number of each class of employes at each colliery in the Seventh Bituminous District, during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Pittsburgh Coal Co.																
Idlewood,	1	.....	14	.....	1	.....	1	17	.....	.....	.....	.....	1	1	2	19
Fort Pitt,	1	.....	104	.....	6	.....	14	125	.....	3	2	.....	[illegible]	12	19	144
Boyd,	1	1	50	.....	5	1	8	66	.....	[illegible]	[illegible]	.....	[illegible]	4	8	[illegible]
Cherry,	1	.....	45	.....	5	1	13	65	.....	[illegible]	[illegible]	.....	1	5	10	[illegible]
Oak Ridge,	1	1	55	.....	5	2	14	78	.....	[illegible]	[illegible]	.....	1	5	12	90
National,	1	1	70	.....	7	1	14	94	.....	[illegible]	[illegible]	.....	1	6	12	106
Champion,	1	.....	137	.....	8	2	12	160	.....	[illegible]	6	.....	1	[illegible]	17	177
Laurel Hill No. 1,	1	4	144	.....	20	5	[illegible]	196	1	6	10	.....	[illegible]	20	39	235
Laurel Hill No. 4,	1	1	75	.....	8	3	[illegible]	91	1	[illegible]	[illegible]	.....	[illegible]	3	10	101
Nickel Plate,	1	[illegible]	160	.....	10	[illegible]	4	179	1	[illegible]	[illegible]	.....	[illegible]	6	13	192
Brier Hill,	1	[illegible]	160	.....	10	[illegible]	4	179	1	[illegible]	[illegible]	.....	[illegible]	6	13	192
Jumbo,	1	[illegible]	177	.....	19	1	14	214	.....	4	6	.....	[illegible]	16	28	242
Nixon,	1	2	145	.....	8	.....	[illegible]	161	.....	4	[illegible]	.....	.....	8	14	175
Leasdale,	1	1	50	.....	5	2	[illegible]	64	.....	1	1	.....	.....	5	7	71
Summer Hill,	1	1	130	.....	10	.....	10	152	1	4	4	.....	2	6	17	169
Bower Hill,	1	1	60	.....	3	.....	[illegible]	70	1	[illegible]	[illegible]	.....	[illegible]	4	11	81
Bridgeville,	1	1	115	.....	8	1	[illegible]	141	.....	4	[illegible]	.....	[illegible]	[illegible]	17	158
Hastings Slope,	1	1	35	.....	2	.....	[illegible]	42	.....	1	[illegible]	.....	[illegible]	[illegible]	9	51
Provident,	1	.....	31	.....	2	1	[illegible]	37	.....	1	[illegible]	.....	[illegible]	[illegible]	7	44
Boon,	1	1	65	.....	6	2	16	91	1	[illegible]	[illegible]	.....	[illegible]	4	13	104
Allison,	1	.....	115	.....	8	1	[illegible]	127	1	[illegible]	.....	.....	[illegible]	4	10	137
Enterprise No. 2,	1	.....	40	.....	[illegible]	1	[illegible]	49	1	1	.....	.....	1	[illegible]	5	54
North Western,	1	1	60	.....	[illegible]	1	[illegible]	70	.....	1	[illegible]	.....	1	[illegible]	6	76
Morgan,	1	1	100	.....	8	4	4	118	1	[illegible]	[illegible]	.....	1	8	16	134
Laurel Hill No. 5,	1	[illegible]	150	.....	12	[illegible]	[illegible]	183	1	[illegible]	[illegible]	.....	1	15	[illegible]	208
Creedmoore,	1	2	120	.....	12	.....	[illegible]	142	1	4	[illegible]	.....	.....	9	21	163

Ridgeway,	1	2	125	.....	10	3	8	149	1	3	4	.....	1	8	17	166
Pan Handle,	1	2	136	.....	10	2	3	154	1	4	4	.....	1	10	20	174
Essen No. 1,	1	2	175	4	11	3	3	199	.....	3	3	.....	.....	6	12	211
Beadling,	1	2	120	3	7	3	3	139	.....	2	5	.....	1	7	15	154
Lake Superior,	1	1	70	.....	6	3	19	100	1	2	3	.....	2	4	12	112
O. I. C.,	1	.....	74	.....	5	1	11	92	.....	2	2	.....	2	3	9	101
Essen No. 2,	1	2	142	.....	11	2	16	174	1	2	2	.....	.....	7	12	186
Essen No. 3,	1	2	130	.....	8	2	24	167	1	4	5	.....	1	10	21	188
Hickman,	1	.....	60	.....	7	2	9	79	1	1	2	.....	1	3	8	87
Ormsby,	1	1	125	3	11	1	6	148	1	5	5	.....	4	9	24	172
First Pool Nos. 1 and 2,	2	5	330	.....	30	6	20	393	.....	5	10	.....	3	22	40	433
Lick Run,	1	1	80	1	6	1	1	91	.....	2	3	.....	1	5	11	102
Enterprise,	1	2	102	8	7	3	2	125	.....	3	6	.....	2	7	18	143
Venture,	1	1	100	2	5	1	.....	110	.....	1	4	.....	1	7	13	123
Moon Run,	1	2	305	.....	25	2	10	345	.....	8	5	.....	3	22	38	383
Dickson,	1	.....	89	7	11	4	.....	112	.....	3	3	.....	1	7	14	126
Margerum,	1	.....	69	2	9	3	.....	84	.....	1	.....	.....	1	6	8	92
Montours,	1	.....	88	3	8	4	1	105	.....	1	2	.....	1	6	10	115
Partridge,	1	.....	101	2	6	2	1	113	.....	1	3	.....	1	3	8	121
Pine Creek,	1	.....	50	2	6	1	.....	60	.....	2	1	.....	1	8	12	72
Totals and average,	47	54	4,878	37	397	87	350	5,850	19	121	147	.....	67	330	684	6,534
C. Jutte Co.																
Bellwood,	1	.....	125	.....	10	.....	2	138	.....	3	.....	.....	1	7	11	149
S. B. Hays.																
Calhoon,	.....	.....	8	.....	1	.....	.....	9	.....	.....	.....	.....	3	.....	3	12
Harrison Gas Coal Co.																
Streets Run,	1	.....	47	1	4	2	.....	55	.....	2	1	.....	1	4	8	63
Hays Coal Co.																
Hays Street Run Nos. 2 and 3,	1	1	144	.....	17	4	3	170	.....	5	3	.....	3	24	35	205
Jos. Walton & Co.																
Walton,	1	2	200	.....	17	1	3	224	.....	3	5	1	1	13	23	247
Castle Shannon Railroad Co.																
Castle Shannon,	1	.....	90	.....	6	.....	4	101	.....	1	.....	.....	.....	8	9	110
Thos. Fox Estate.																
Fox,	1	.....	16	.....	1	.....	1	19	1	.....	1	.....	.....	.....	2	21
Mansfield Coal and Coke Co.																
Mansfield No. 2,	1	3	230	.....	15	2	35	286	.....	9	4	.....	3	13	29	315
Egar Bros. & Snyder.																
Grant,	1	.....	28	3	6	.....	2	40	1	1	.....	.....	1	.....	3	43
Mankedick Coal Co.																
Pine Ridge,	1	.....	60	5	3	.....	6	75	1	1	.....	.....	1	.....	3	78

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Vulcan Coal Co.																
Vulcan,	1	2	175	.....	8	1	33	220	.....	4	3	.....	2	10	19	239
McFetridge Bros.																
Vine	1	1	98	.....	8	2	3	113	1	2	3	.....	2	5	13	126
West Tarentum,	1	.....	16	.....	1	.....	.....	18	1	.....	.....	.....	.....	.....	1	19
Totals and average,	2	1	114	.....	9	2	3	131	2	2	3	.....	2	5	14	145
Brackenridge Coal Co.																
Brackenridge,	1	.....	42	.....	3	.....	3	49	.....	.....	.....	.....	.....	2	2	51
Freeport Coal Co.																
Freeport,	1	.....	17	.....	1	.....	1	20	.....	.....	.....	.....	1	.....	1	21
P. S. M. Co.																
Natrona Nos. 1 and 2,	1	2	100	16	10	3	1	133	.....	3	6	.....	.....	15	24	157

Recapitulation.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Pittsburgh Coal Co.,	47	54	4,878	37	397	87	350	5,850	19	121	147	.....	67	330	684	6,534
C. Jutte Co.,	1	.....	125	.....	10	.....	2	138	.....	3	.....	.....	1	7	11	149
S. B. Hays,	.....	.....	8	.....	1	.....	.....	9	.....	.....	.....	.....	3	.....	3	12
Harrison Gas Coal Co.,	1	.....	47	1	4	2	.....	55	.....	2	1	.....	1	4	8	63
Hays Coal Co.,	1	1	144	.....	17	4	3	170	.....	5	3	.....	3	24	35	205
Jos. Walton & Co.,	1	2	200	.....	17	1	3	224	.....	3	5	1	1	13	23	247
Castle Shannon Railroad Co.,	1	.....	90	.....	6	.....	4	101	.....	1	.....	.....	.....	8	9	110
Thos. Fox Estate,	1	.....	16	.....	1	.....	1	19	1	.....	1	.....	.....	.....	2	21
Mansfield Coal and Coke Co.,	1	3	230	.....	15	2	35	286	.....	9	4	.....	3	13	29	315
Egar Bros. & Snyder,	1	.....	28	3	6	.....	2	40	1	1	.....	.....	1	.....	3	43
Mankedick Coal Co.,	1	.....	60	5	3	.....	6	75	1	1	.....	.....	1	.....	3	78
Vulcan Coal Co.,	1	2	175	.....	8	1	33	220	.....	4	3	.....	2	10	19	239
McFetridge Bros.,	2	1	114	.....	9	2	3	131	2	2	3	.....	2	5	14	145
Brackenridge Coal Co.,	1	.....	42	.....	3	.....	3	49	.....	.....	.....	.....	.....	2	2	51
Freeport Coal Co.,	1	.....	17	.....	1	.....	1	20	.....	.....	.....	.....	1	.....	1	21
P. S. M. Co.,	1	2	100	16	10	3	1	133	.....	3	6	.....	.....	15	24	157
Totals and average,	62	65	6,274	62	508	102	447	7,520	24	155	173	1	86	431	870	8,390

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Pittsburgh Coal Co.													
Idlewood,	.....	.....	.....	.....	.....	.....	.....	.....	12	11	10	4	37
Fort Pitt,	22	22	21	23	19	22	23	20	20	8	20	20	240
Boyd,	19	17	26	25	25	25	26	23	22	24	23	24	279
Cherry,	20	22	16	17	24	23	20	24	21	25	22	23	257
Oak Ridge,	24	24	24	17	18	23	24	25	24	25	24	25	270
National,	24	19	21	18	22	20	21	22	23	20	22	23	255
Champion,	26	21	20.50	15.75	23.62	24.25	22.62	26.50	22.87	22.25	21.50	23	268.87
Laurel Hill No. 1,	23	22	23	6	17	23	24	25	23	23	19	23	248
Laurel Hill No. 4,	21	20	23	16	20	25	23	22	20	21	.....	.....	211
Nickel Plate,	22	23	24	15	20	20	20	20	19	26	22	23	251
Brier Hill,	25	24	22	13	22	25	25	25	22	25	24	24	276
Jumbo,	23.25	21.62	22	21.75	22.37	24.75	21.12	24.25	22.25	24.25	20.25	19.75	267.62
Nixon,	10.25	13	7	7.25	20	18.50	19	22	20.25	20.75	22	19.50	199.50
Leasdale,	17.24	18.75	10.25	9	18.50	21.50	18.50	18.50	21.50	24	23.50	24	225.25
Summer Hill,	21	18	22.50	18	24	23	22	19	22	23	21	24	257.70
Bower Hill,	18	13	3	9	15	12	18	17	12	15	13	.....	145
Bridgeville,	20	19	18	15	23	21	25	24	23	24	25	25	262
Hastings Slope,	5	5	10	10	10	10	20	15	10	5	16	10	120
Provident,	10	5	15	5	10	20	20	20	15	.....	.....	.....	120
Boon,	21	18.50	15.50	10	19	15	21	21	17.50	18.50	8.50	13	198.50
Allison,	8.50	11.50	8.50	8.25	6	9	10	10	10.50	10.75	12	12.25	120.25
Enterprise No. 2,	5.25	6	7.25	4.75	5.25	7.25	8	8	8.25	10.25	11.25	12	93.50
North Western,	.....	.....	.....	20	20	20	20	.....	.....	.....	.....	.....	80
Morgan,	.....	.....	.....	10	20	20	20	15	15	20	20	10	150
Laurel Hill No. 5,	15	15	20	25	25	24	20	25	19	12	15	15	230
Creedmoore,	5	10	10	15	20	23	20	24	20	20	18	15	200

Ridgway,	5	8	10	12	15	20	22	22	20	15	10	10	169
Pan Handle,	22	23	24	21	25	25	23	24	23	23	23	23	279
Essen No. 1,	.....	.....	4	23	25	25	23	24	23	23	23	23	216
Beadling,	18	19	20	18	23	23	17	21	18	24	21	21	243
Lake Superior,	20	19	18	20	20	21	19	17	18	20	14	15	221
O. I. C.,	19	19.25	24.50	17.50	21.25	15.75	19.25	23.25	22	21.25	17.25	12	232.25
Essen No. 2,	.....	5	14.50	21	20	19	20.50	22	.....	.....	23	21	166
Essen No. 3,	.....	.....	7.50	20	22	20	23	22.50	.....	.....	23.50	17	155.50
Hickman,	18	17	14.50	15	17	19.50	22.50	18	16	17.50	13	11.50	199.50
Ormsby,	26	24	26	20	24	20	18	23	24	24	22	21	272
First Pool Nos. 1 and 2,	21.50	22.50	24.25	19.25	23	21	21.75	23.12	23.12	23.75	26	22.50	271.75
Lick Run,	23	18	12	16	14	20	20	19	20	15	20	19	216
Enterprise,	14	20	19	24	6	4	5	8	18	24	16	7	165
Venture,	14	11	16	23	25	12	6	7	22	26	9	13	184
Moon Run,	19	22	15	18	22	15	21	19	23	19	23	21	237
Dickson,	17.75	11.12	12	17.12	12.25	15	14.75	16.25	17.75	22.25	19	.....	175.25
Margerum,	15	15	13.50	13.62	11	9.25	12.25	5	.....	.....	.....	.....	94.62
Montours,	17.25	12.75	12	15.87	16.50	11.75	15	12.50	18.12	17.75	16.25	.....	165.75
Partridge,	26	24	26	17	22	17	21	13	19	18	20	19	242
Pine Creek,	22.25	20.34	22.26	22.50	25	25.12	23.75	25.75	25.12	25.75	23.50	22.75	284.50
Totals and average,	15.70	15.10	15.60	15.80	18.60	18.60	19	18.70	17.70	17.70	17.10	15.40	9,452.12
C. Jutte Co.													
Bellwood,	16	13	21	20	19	16	.....	.....	.....	11	23	22	161
S. B. Hays.													
Calhoon,	26	24	27	25	27	26	26	27	26	26	26	26	312
Harrison Gas Coal Co.													
Streets Run,	25	26	26.50	25	24.50	25.50	24.50	26.50	26.50	26.50	22.50	26	305
Hays Coal Co.													
Hays Street Run Nos. 2 and 3,	.....	.....	.....	22	22.50	9	.....	.....	.....	.....	.....	.....	53.50
Jos. Walton & Co.													
Walton,	24	22	25	24	23	19	23	24	7	10	23	22	246
Castle Shannon R. R. Co.													
Castle Shannon,	25.50	24	26	21	14	13	13	14	22	26	25	26	249.50
Thos. Fox Estate.													
Fox,	24	22	14	19	10	9	9	9	22	26	25	24	213
Mansfield Coal and Coke Co.													
Mansfield No. 2,	23	23	21	21.50	22	24.50	25	22	25	25	24	23	279
Egar Bros. & Snyder.													
Grant,	26	24	27	25	26	26	24	27	26	26	26	25	308
Mankedick Coal Co.													
Pine Ridge,	17	18	20	20	23	24	25	25	24	24	25	24	269

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Vulcan Coal Co.													
Vulcan	23.75	12.75	15	16.50	19.25	18.25	18.75	17.75	19.25	22	2.50	20.75	226.50
McFetridge Bros.													
Hite,	25.50	24	23	19.50	22	22	19	25	26	25.50	25.50	25	282
West Tarentum,	26	24	27	25	26	26	25	27	26	26	26	25	309
Totals and average,	25.75	24	25	22.25	24	24	22	26	26	25.75	25.75	25	591
Brackenridge Coal Co.													
Brackenridge,	26	24	26	25	27	25	26	27	24	27	26	27	310
Freeport Coal Co.													
Freeport,	26	23	26	24	27	26	25	27	25	26	25	25	305
P. S. M. Co.													
Natrona Nos. 1 and 2,	26	23	27	25	24	22	21	20	20	21	24	25	278

Recapitulation.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Pittsburgh Coal Co.,	15.70	15.10	15.60	15.80	18.60	18.60	19	18.70	17.70	17.70	17.10	15.40	9,452.12
C. Jutte Co.,	16	13	21	20	19	16	.....	.....	.....	11	23	22	161
S. B. Hays,	26	24	27	25	27	26	26	27	26	26	26	26	312
Harrison Gas Coal Co.,	25	26	26.50	25	24.50	25.50	24.50	26.50	26.50	26.50	22.50	26	305
Hays Coal Co.,	.....	.....	.....	22	22.50	9	.....	.....	.....	.....	.....	.....	53.50
Jos. Walton & Co.,	24	22	25	24	23	19	23	24	7	10	23	22	246
Castle Shannon R. R. Co.,	25.50	24	26	21	14	13	13	14	22	26	25	26	249.50
Thos. Fox Estate,	24	22	14	19	10	9	9	9	22	26	25	24	213
Mansfield Coal and Coke Co.,	23	23	21	21.50	22	24.50	25	22	25	25	24	23	279
Egar Bros. & Snyder,	26	24	27	25	26	26	24	27	26	26	26	25	308
Mankedick Coal Co.,	17	18	20	20	23	24	25	25	24	24	25	24	269
Vulcan Coal Co.,	23.75	12.75	15	16.50	19.25	18.25	18.75	17.75	19.25	22	23.50	20.75	226.50
McFetridge Bros.,	25.75	24	25	22.25	24	24	22	26	26	25.75	25.75	25	591
Brackenridge Coal Co.,	26	24	26	25	27	25	26	27	24	27	26	27	310
Freeport Coal Co.,	26	23	26	24	27	26	25	27	25	26	25	25	305
P. S. M. Co.,	26	23	27	25	24	22	21	20	20	21	24	25	278
Totals and average,	26	23	27	25	24	22	21	20	20	21	24	25	278

TABLE IV—List of fatal accidents that occurred in and about the mines of the Seventh Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Feb. 2,	Robert Frame, ...	Engineer, ...	45	M.	1	4	Jumbo, ...	Washington,....	Fatally scalded by escaping steam; he was repairing a leaking steam joint which was forced asunder and the full head of steam from the boilers was thrown directly upon him; he died a few hours after the accident.
Mar. 24,	Jos. Vaupel, ...	Miner, ...	24	S.	....	....	Moon Run, ...	Allegheny, ...	Instantly killed by a fall of slate; he was working under a dangerous piece of slate which he should have taken down, as the danger could readily be seen.
30,	John Clark, ...	Miner, ...	58	S.	....	....	Champion, ...	Allegheny, ...	Fatally injured by a fall of slate; he was taken to the hospital where he died the following night; this man failed to examine his room in the morning and was injured the moment he commenced to work; the accident was due to his own carelessness, or lack of judgment.
April 26,	Gustave Hurbert, ...	Miner boy, ...	17	S.	....	....	Partridge, ...	Allegheny, ...	Instantly killed by a fall of slate; he was working in a room with another man whose carelessness was partly the cause of the accident; he knew the boy was working in danger and it was his duty to see that the place was made safe.
May 22,	Louis Vandorf, ...	Miner, ...	42	M.	1	3	Nickel Plate, ...	Allegheny, ...	Fatally injured by a fall of roof coal and slate in his working place; he died shortly after the accident.
June 15,	John Hillack, ...	Miner, ...	35	M.	1	1	Ridgway, ...	Washington,....	Instantly killed by a fall of "horseback" roof in his room; he was making preparation to set a prop under the faulty roof when it fell upon him.

	20,	Chas. Mekelaskey,	Miner,	29	S.	....	....	Pan Handle,	Allegheny,	Fatally injured; he was crushed between a car and coal pillar in his room, and died the same day; the accident was due to his own carelessness.
	30,	John Myers,	Miner boy,	15	....	....	....	Leasdale,	Allegheny,	Instantly killed by a fall of slate; he was working with his father in a room; the father knew that the slate was unsafe and should have prevented the boy from going into the danger, and failing to do so makes him responsible for the accident.
July	14,	John Estoker,	Miner,	39	M.	1	3	Allison,	Washington,	Fatally injured by a fall of slate in his working place; died the same day.
	18,	Jule Vervock,	Miner boy,	14	....	....	....	Champion,	Allegheny,	Instantly killed by a blow on the head from a very small piece of falling slate; he was working in a room with an elder brother; the room appeared to be safe, as far as could be seen, and the occurrence was accidental.
Aug.	12,	James Urbanus,	Miner,	35	M.	1	....	Leasdale,	Allegheny,	Killed by being crushed between car and side of roadway, at the entrance to his room, where he was standing beside an empty car; the full trip in passing the room parted and struck the empty car, throwing it off the track.
	14,	Morris Swzier,	Miner,	35	M.	1	2	Ridgway,	Washington,	Killed by a fall of coal and slate in his room.
	18,	Frank Avleyack,	Roadman,	52	S.	....	....	Bower Hill,	Allegheny,	Killed by falling under a loaded car; he was riding from his work on the trip of full cars, and lost his life while violating the mine law.
	23,	Alex. Sheaver,	Miner,	19	S.	....	....	Boon,	Washington,	Instantly killed by a fall of slate in his room; he was warned of his danger by another miner about five minutes previous to the accident, but he failed to heed the warning and was the victim of his own recklessness.
	24,	Regis Debard,	Miner,	31	M.	1	....	Mansfield No. 2,	Allegheny,	Killed by a fall of slate in his room.
Sept.	5,	Chas. Rinka,	Machine runner,	28	S.	....	....	Partridge,	Allegheny,	Killed by a fall of roof coal; he had braced the jack bar of the machine against the roof coal to hold the machine up to its work; the jar of the machine while in motion loosened the roof unknown to him, and when he took the bar down the coal fell upon him causing death.
	8,	Salvatore Timaria,	Miner,	45	M.	1	2	Boon,	Washington,	Killed by a fall of slate in his working place.
	13,	Wm. Tantlurger,	Miner,	39	M.	1	7	Natrona,	Allegheny,	Killed by a fall of rock; he had fired a blast in the roof and went to work under it, when part of the broken rock fell upon him causing instant death.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Sept. 26.	Sia Crugenski, ...	Miner, ...	31	M.	1	3	Brackenridge, ...	Allegheny, ...	Fatally injured by a small piece of bone coal falling upon him in his room; he was taken to the hospital where he died on October 25.
Oct 19.	Mike Domrich, ...	Miner, ...	19	S.	....	....	Essen No. 2.	Allegheny, ...	Killed by coming in contact with an electric wire on the roadway of his room.
23.	Paul Ornarley, ...	Miner, ...	42	M.	1	1	Partridge, ...	Allegheny, ...	Killed by fall of slate in his room; he failed to set sufficient props; the danger should have been detected and guarded against.
26.	Frank Dermotti, ...	Miner, ...	32	M.	1	6	Essen No. 2.	Allegheny, ...	Instantly killed by a fall of roof in his room.
28.	Wm. Brook, ...	Miner, ...	42	M.	1	2	Essen No. 2.	Allegheny, ...	Instantly killed by a fall of "horseback" roof.
Nov. 2.	Wm. Bruce, ...	Driver, ...	36	M.	1	3	Mansfield No. 2, ...	Allegheny, ...	Killed by being crushed between the coal pillar and car on a room parting; he was standing on side of roadway for the car to pass, when it left the track and thrust him against the pillar of coal.
6.	Nelson Haddon, ...	Miner, ...	31	M.	1	....	Streets Run, ...	Allegheny, ...	Instantly killed by a fal of slate in his room.
7.	Peter Parasali, ...	Miner, ...	26	S.	....	....	First Pool No. 1, ...	Allegheny, ...	Fatally injured by a fall of slate in his room; he was taken to the hospital, where he died the following day.
Dec. 1.	J. J. Johnson	Miner, ...	55	M.	1	2	Jumbo, ...	Washington,....	Killed by a fall of slate in his room.
12.	John Breezky	Miner, ...	32	S.	....	....	Headling, ...	Allegheny, ...	Instantly killed by a fall of slate in his room.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Seventh Bituminous District for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 5,	Richard Jackson,	Driver,	38	M.	Jumbo,	Washington,	Hip injured by a mule falling on him.
7,	John Masclone,	Miner,	42	M.	Lake Superior,	Allegheny,	Two ribs broken and leg injured by a fall of slate.
21,	Moses Nelson,	Miner,	54	M.	Mansfield No. 2,	Allegheny,	Leg fractured; caught between two mine cars.
Feb. 1,	John Rodgers,	Miner,	23	S.	Laurel Hill No. 7,	Allegheny,	Ankle injured by a lump of coal falling on it.
1,	Mike Jacobs,	Miner,	40	S.	Fort Pitt,	Allegheny,	Leg broken by a fall of slate in his room.
9,	Geo. Schultz,	Miner,	34	M.	First Pool No. 1,	Allegheny,	Both legs broken by a fall of roof coal in his room.
20,	Steve Velag,	Miner,	36	M.	Ridgway,	Washington,	Back injured by a fall of slate in his working place.
20,	John Scott,	Machine runner,	39	M.	Laurel Hill No. 1,	Allegheny,	Slightly injured by a fall of slate.
21,	Nat Hussi,	Miner,	40	S.	Montours,	Allegheny,	Leg broken by a fall of slate in his room.
28,	John Thompson,	Miner,	50	M.	Jumbo,	Washington,	Injured about hips and leg by a fall of slate and roof coal.
Mar. 2,	Joseph Atkins,	Machine runner,	23	M.	Mansfield No. 2,	Allegheny,	Foot and leg cut by coming in contact with the cutter chains of a mining machine.
4,	Andrew Neilson,	Engineer,	25	S.	Essen No. 2,	Allegheny,	Arm crushed; caught in cog wheels of electric pump while adjusting the oil cup on the pump.
4,	Charles Mickolicci	Miner,	30	M.	Jumbo,	Washington,	Hips injured by a fall of slate.
14,	Crist Neiser,	Miner,	56	M.	Oak Ridge,	Allegheny,	Back and side seriously injured by a fall of roof.
29,	Thos. Pyers,	Miner,	42	M.	Venture,	Allegheny,	Ankle injured by a fall of slate at face of his room.
30,	Henry Staderman,	Miner,	34	M.	Mansfield No. 2,	Allegheny,	Seriously burned about head and hands by an explosion of gas; due to his own carelessness.
April 11,	Geo. Sanuskie,	Miner,	34	M.	Bellwood,	Allegheny,	Thigh fractured by a fall of roof.
17,	John Waigs,	Miner,	25	S.	Essen No. 2,	Allegheny,	Leg broken by a fall of slate.

51-10-99

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
April 24.	Adolph Mason,	Driver,	19	S.	Vulcan,	Allegheny,	Leg broken; caught by a car running down grade.
27.	Steve Luckosh,	Miner,	45	M.	Laurel Hill No. 4,	Allegheny,	Head and back injured by a fall of slate and coal.
28.	Joe Luckosh,	Miner,	35	S.	Laurel Hill No. 4,	Allegheny,	Injured about hips and upper part of body by a fall of slate.
May 8.	Joseph Boustead,	Driver,	25	S.	Venture,	Allegheny	Jaw bruised and leg broken; was kicked by a mule
11.	John Gaazell,	Miner,	45	M.	Oak Ridge,	Allegheny	Ankle dislocated and injured about head and body by a fall of slate.
29.	Nick Spicker,	Machine runner,	18	S.	Leasdale,	Allegheny,	Leg injured; caught by the truck while moving his machine along the entry road.
June 6.	Joseph Riba,	Miner,	24	S.	Beadling,	Allegheny,	Back injured by a fall of slate in his room.
July 10.	Frank Haley,	Miner,	25	M.	Jumbo,	Washington,	Thigh broken and knee dislocated by a fall of slate in his room.
14.	Frank Grassey,	Miner,	30	S.	Fort Pitt,	Allegheny,	Leg broken in two places by a fall of slate and coal.
19.	Peter Vitch,	Miner,	28	M.	Essen No. 3,	Allegheny,	Leg cut off below the knee by coming in contact with the cutter chain of a mining machine.
20.	John Sterbo,	Miner,	36	S.	Pan Handle,	Allegheny,	Hip dislocated by a fall of slate.
21.	James Bryan,	Cager,	....	M.	Laurel Hill No. 4,	Allegheny,	Several ribs broken and otherwise injured by a fall of roof.
28.	Stephen Covoc,	Miner,	20	M.	Essen No. 3,	Allegheny,	Leg broken; caught between two empty cars.
Aug. 3.	Martin Bauer,	Miner,	21	S.	Walton,	Allegheny,	Leg and back injured by a fall of slate.
7.	Thomas Creuse,	Miner,	39	S.	Bridgeville,	Allegheny,	Leg broken by a fall of slate.
11.	Luis Raesta,	Machine runner,	31	S.	Bridgeville,	Allegheny,	Leg injured by a fall of slate.
14.	Chas. Russi,	Driver,	22	S.	Bridgeville,	Allegheny,	Leg broken; caught between trap door and front end of his trip of cars.
18.	Wm. Spandie,	Miner,	22	S.	Nickel Plate,	Allegheny,	Three ribs broken and back injured by a fall of slate in his room.

	21,	Jno. Petie,	Miner,	40	M.	Vulcan,	Allegheny,	Both legs broken; caught between cars and side of entry on main hauling road; he should not have gone on the hauling road but should have used the traveling road to pass out of the mine.
Aug.	27,	James Walters,	Driver,	30	S.	Freeport,	Allegheny,	Thigh and hips bruised; caught between car and side of entry.
	28,	Antoney Montague,	Miner boy,	15	....	Jumbo,	Washington,	Leg injured; struck by a car.
	30,	Patrick McDime,	Miner boy,	12	....	Enterprise,	Allegheny,	Foot crushed by a fall of slate, necessitating amputation of foot.
Sept.	1,	Steve Dorrets,	Miner,	26	S.	Moon Run,	Allegheny,	Three ribs broken by a fall of slate.
	6,	Petro Gatti,	Miner,	50	M.	Bower Hill,	Allegheny,	Foot crushed, necessitating amputation, and three ribs broken by a fall of salte.
	16,	John Dean,	Miner,	19	S.	National,	Allegheny,	Back and hip severely injured by a fall of slate.
	18,	Emanuel Levor,	Door boy,	14	....	Laurel Hill No. 4,	Allegheny,	Bruised about the body; fell out of the cage while ascending the shaft.
	25,	Matthew Holland,	Miner,	63	M.	Enterprise,	Allegheny,	Right shoulder broken by a fall of slate.
	27,	Joe Meliski,	Miner,	40	M.	Vulcan,	Allegheny,	Bruised about back and shoulders; caught between car and side of passage way.
Oct.	1,	Thomas Pohida,	Miner,	33	M.	Mansfield No. 2,	Allegheny,	Leg injured by fall of slate, necessitating amputation of leg below the knee.
	9,	Chas. Scholart,	Driver,	20	S.	Champion,	Allegheny,	Arm broken; caught between cars.
	16,	Otto Windler,	Laborer,	40	M.	Pan Handle,	Allegheny,	Leg injured; caught between the bumpers of coal cars on the tipple.
	28,	Chas. Schmitt,	Miner,	21	S.	Essen No. 2,	Allegheny,	Hip dislocated by a fall of roof in his room.
Nov.	8,	Archie Morrow,	Miner,	56	S.	Allison,	Washington,	Slightly injured by a fall of slate.
	9,	Thomas Bromley,	Driver,	24	M.	Brier Hill,	Washington,	Leg injured; struck his leg against a blasting needle, forcing the sharp end under his knee cap.
	10,	Andrew Weinhelmer,	Laborer,	18	S.	Ormsby,	Allegheny,	Leg broken by a fall of slate.
	13,	Steve Keis,	Miner,	38	M.	Essen No. 3,	Allegheny,	Hip and body bruised by a fall of slate.
	15,	A. Tomansovitch,	Miner,	40	M.	Montours,	Allegheny,	Collar bone broken and right knee injured by a fall of slate.
	17,	Mike Melchik,	Miner,	37	S.	First Pool No. 2,	Allegheny,	Breast and sides injured and ankle sprained by a fall of slate.
	28,	Fred. Dempy,	Driver,	24	M.	Laurel Hill No. 5,	Allegheny,	Leg broken and otherwise injured by moving cars.
Dec.	1,	James Bruce,	Driver,	38	M.	Jumbo,	Washington,	Hip dislocated and body injured; caught between car and side of entry.
	5,	Paul Dyell,	Miner,	38	M.	Laurel Hill No. 1,	Allegheny,	Leg broken by a fall of slate.
	9,	Mike Kokel,	Miner,	30	S.	Pan Handle,	Allegheny,	Foot injured by a fall of slate.
	12,	John Riskins	Miner,	21	S.	Beadling,	Allegheny,	Leg broken by a fall of slate.
	20,	Wm. Matchen,	Miner,	29	S.	Mansfield No. 2,	Allegheny,	Foot crushed by fall of slate, necessitating amputation.
	21,	John Habback,	Miner,	49	M.	Vulcan,	Allegheny,	Three fingers cut off and thigh injured by a fall of slate.
	21,	Andy Habback,	Miner,	43	M.	Vulcan,	Allegheny,	Back severely injured by a fall of slate.

Eighth Bituminous District.

CLEARFIELD, CENTRE AND JEFFERSON COUNTIES.

Philipsburg, February 8, 1890.

Hon. James W. Latta, Secretary of Internal Affairs, Harrisburg, Pa.:

Sir: In compliance with Section 2 of Article 10 of the Bituminous mine law, I hereby submit my annual report for the Eighth Bituminous district for the year ending December 31, 1899.

There has been a large increase in the quantity of coal produced; also in the fatal and non-fatal accidents, but while there is a greater increase in fatal accidents in proportion to the number of tons mined, there is not so large a precentage of non-fatal accidents as in the preceding year. In very many cases the number of accidents could have been reduced by more vigilance by the unfortunates themselves, together with more rigid discipline by the officials directly in charge of the mines.

The increase in production of net tons of coal is 1,123,970, or one-third greater than for 1898, being a total of 4,476,814 against 3,352,840 tons for the preceding year, showing the increased prosperity in the coal business in this part of the State. The report also gives more data in connection with the methods employed in mining and hauling coal, which is principally due to the energy put forth by the head of the Bureau of Mines, he having aided very materially in solving the many problems that occur in connection with the operating of coal mines. I have no doubt that the purpose intended when the Bureau of Mines was established, is now progressing in the right direction for producing the results expected in providing for the health and safety of those engaged in the mining of coal.

The statistics and tables fully explain all the details in connection with the output of the mines.

I remain,

Yours very respectfully,

JOSEPH KNAPPER,
Inspector.

Summary of Statistics.

Number of mines in the district,	95
Number of mines in operation during 1899,	94
Number of net tons of coal produced,	4,476,814.29
Number of tons shipped,	4,327,442
Number of tons used for steam and heat at mines,	49,507
Number of tons sold to employes,	12,780
Number of coke ovens,	156
Number of tons of coke produced,	45,955
Number of persons employed inside of mines,	5,814
Number of persons employed outside of mines,	326
Number of fatal accidents,	11
Number of tons produced per fatal accident,	406,983
Number of non-fatal accidents,	29
Number of tons produced per non-fatal accident,	154,375
Number of persons employed per fatal accident,	569.09
Number of persons employed per non-fatal accident,	215.86
Number of wives made widows by accidents,	5
Number of children made orphans by accidents,	20
Number of kegs of powder used,	26,357
Number of pounds of dynamite used,	19,829
Number of cylindrical boilers in use,	34
Number of tubular boilers in use,	49
Number of electric locomotives,	12
Number of new mines opened,	12
Number of old mines abandoned,	1

TABLE A—Showing the Production of Coal, the number of Persons Employed by each Company during the Year 1899, and the Average number of Tons Produced per Employe.

Names of Coal Companies and Individual Operators.	Total tons.	Number of persons employed.	Average number of tons produced per each employe.
Berwind-White Coal Mining Co.,	1,845,168	2,268	813.6
Morrisdale Coal Co.,	405,885	509	793.3
Estate of O. P. Jones,	133,427	240	555.9
Beulah Coal Co., Ltd.,	126,820	194	653.7
J. T. & H. Todd,	110,897	140	729
Ophir Coal Co. & J. Swires,	138,101	205	673.7
United Colliery Co.,	44,268	188	235.4
G. L. Whitehead & Co.,	54,902	169	324.9
Thos. C. Heims & Co.,	74,722	145	515.3
Morris Liveright,	60,905	126	483.3
John G. Platt,	64,165	105	611.0
Williams, Morris & Co.,	58,738	61	962.9
John Nuttall & Co.,	30,435	104	292.6
Peale, Peacock & Kerr, Inc.,	25,093	173	145
Thos. Barnes,	49,287	90	548.7
David Atherton,	48,150	68	708.9
Cambria Coal Mining Co.,	12,435	183	532.9
Coaldale Coal Co.,	30,500	57	535
J. R. Fleming,	10,165	15	697.6
W. T. Rainey & Co.,	38,709	87	445.9
M. & F. Craig,	38,660	60	643.3
Adams & Co.,	38,158	45	847.9
Ghem Coal Co.,	36,216	52	699.9
M. Burns,	26,830	45	618.4
R. Hughes & Son,	24,240	40	606
John Barnes & Sons,	23,697	49	483.5
Thos. Blythe,	23,230	52	446.7
Moshannon Coal Mining Co.,	21,775	71	306.7
Harbison Walker Fire Brick Co.,	18,953	33	574.3
P. Gallagher,	19,562	25	782.5
Johnson & Hess,	18,450	35	498.5
Penn Iron Co.,	15,930	25	637.2
R. A. Jackson,	13,790	38	415.5
J. R. Brown & Co.,	13,943	40	348.5
J. Mountz,	12,610	49	257.3
Christoff Bros. & Co.,	12,144	27	449.7
Wm. A. Gould,	11,885	28	424.5
Rearkirk Bros. & Co.,	11,729	20	506.4
L. Milton Wilson,	9,178	29	316.4
Townsend & Milson,	10,054	23	437.1
H. Schwinn,	8,158	12	679.9
Geo. Lobb & Co.,	6,269	59	106.1
Jas. Gatehouse,	6,020	13	473.0
W. T. Jackson,	4,276	43	99.4
Irish Bros. & Co.,	2,605	19	137.0
Copelin & Stevens,	850	12	70.9
J. F. Stott,	100	9	17.7
H. McD. Lorain,	1,500	9	166.6
Wm. Casper,	9,912	23	430.9
Thos. Wood,	14,283	21	680.1
Total,	4,476,814	6,140	*729

*Average.

TABLE B.—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
Berwind-White Coal Mining Co..	7	263,595.3
Morrisdale Coal Co.,	2	201,917.5
United Colliery Co.,	1	44,268
Beulah Coal Company.	1	126,829
Total,	11	*106,983

*Average.

TABLE C—Showing the number of Fatal and Non-fatal Accidents, and the Number of Tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Number of tons of coal produced per accident.
Berwind-White Coal Mining Co..	18	102,509.3
Morrisdale Coal Mining Co.,	10	40,383.5
United Colliery Co.,	1	44,268
Buelah Coal Co.,	1	126,829
M. Liveright,	1	60,240
Thos. C. Heims & Co.,	1	74,722
Ghem Coal Co.,	1	36,216
Mountz Coal Co.,	1	12,610
Baltic Coal Co.,	1	49,387
J. Nuttall & Co.,	1	30,435
T. J. Lee & Co., Ltd.,	1	62,689
Ophir Coal Co.,	1	138,101
H. Schwinn,	1	8,158
Belsena Coal and Coke Co.,	1	38,799
Total,	40	*111,920

*Average.

TABLE D—Classification of Accidents.

Classication of Accidents.	Killed or fatally injured.	Injured.	Total.
By falls of coal,	1	7	8
By falls of slate and other roof,	2	12	19
By cars,	2	6	8
By premature blasts,		1	1
By powder explosion,		1	1
By machinery in general,	1	1	2
Total,	11	29	40

TABLE E—Occupations of Persons Killed or Injured.

Classification.	Killed or fatally injured.	Injured.	Total.
Miners,	10	23	33
Laborers,		1	1
Drivers,	1	4	5
Company men, outside labor,		1	1
Total,	11	29	40

TABLE F—Nationalities of Persons Killed or Injured.

	Killed.	Injured.	Total.
Welsh,	3	4	7
English,	3	5	8
Scotch,	1	1	2
Irish,	1	2	3
Poles,		2	2
Slavs,		6	6
Americans,	2	6	8
French,		1	1
Italians,		1	1
Germans,	1	1	2
Total,	11	29	40

TABLE—Giving name of Mine, system of Haulage, and Ventilation, kind of Opening, Pick or Machine Mining.

Name of Mine.	Haulage.	Fan or Furnace.	Drift, Slope or Shaft.	Gross tons pick mining.	Type of machine (puncher) and tons of coal.
Atlantic No. 1.	Electric,	Fan and furnace,	Drift,	131,748	
Atlantic No. 2.	Mules,	Fan,	Drift,	128,809	
Acme No. 1.	Tail rope,	Fan,	Slope,	14,431	
Acme No 2.	Single rope,	Fan,	Slope,	108,258	
Alexandria,	Mules,	Furnace,	Drift,	75,593	
Ashman,	Mules,	Furnace,	Drift,	19,000	
Baltic Nos. 1 and 3,	Mules,	Furnace,	Drift,	49,387	
Bear Run,	Mules and rope plane,	Furnace,	Drift,	9,178	
Bessemer,	Mules and rope plane,	Furnace,	Drift,	7,584	
Belsena No. 3,	Mules and rope plane,	Furnace,	Drift,	38,799	
Brier,	Mules and rope plane,	Furnace,	Drift,	11,139	
Barton,	Single rope and mules,	Furnace,	Slope,	6,020	
Colorado No. 2,	Mules and rope plane,	Furnace,	Drift,	37,491	
Colorado No. 3,	Tail rope being installed,	Furnace,	Drift,	48,150	
Cuba No. 2,	Mules,	Furnace,	Drift,	17,155	
Columbia No. 5,	Mules,	Furnace,	Drift,	14,233	
Decatur No. 1,	Mules,	Furnace,	Drift,	54,572	
Decatur No. 2,	Mules,	Furnace,	Drift,	1,156	
Decatur No. 3,	Arranging for tail rope,	Furnace,	Drift,		
Electric,	Mules,	Furnace,	Drift,	47,881	
Eureka No. 5,	Single rope and mules,	Fan,	Slope,	131,748	
Eureka No. 7,	Mules and rope shafts,	Fan,	Shaft,	128,809	
Eureka No. 16,	Mules,	Fan,	Drift,	108,258	
Eureka No. 18,	Mules,	Furnace,	Drift,	75,593	
Eureka No. 19,	Electric,	Fan,	Drift,	153,424	
Eureka No. 21,	Mules and rope plane,	Furnace,	Drift,	51,541	
Eureka No. 22,	Electric,	Fan,	Drift,	175,526	
Eureka No 24,	Mules,	Furnace,	Drift,	43,921	
Fairmount No. 1,	Mules and rope plane,	Furnace,	Drift,	19,115	
Fairmount No. 2,	Mules,	Furnace,	Drift,	26,381	
Guion,	Mules,	Furnace,	Drift,	9,219	
Glenwood Nos. 1 and 2,	Mules and rope plane,	Furnace,	Drift,	58,738	
Gearhart,	Mules,	Furnace,	Drift,	62,689	
Grampian No. 1,	Mules,	Furnace,	Drift,	4,276	

Grampian No. 2,	Mules,	Furnace,	Drift,	19,246	
Highland,	Mules,	Furnace,	Drift,	160	
Birds Eye,	Single rope and mules,	Furnace,	Slope,	9,912	
Hobson,	Mules,	Furnace,	Drift,	18,450	
Imperial No. 1,	Mules,	Furnace,	Drift,	30,500	
Jefferson,	Mules and rope plane,	Furnace,	Drift,	38,158	
Kentuck,	Mules and rope plane,	Furnace,	Drift,	10,465	
Leader No. 1,	Mules and rope plane,	Furnace,	Drift,	24,240	
Leader No. 2,	Mules and rope plane,	Furnace,	Drift,		
Lancashire,	Mules and rope plane,	Furnace,	Drift,	23,697	
Loraine,	Mules and rope plane,	Furnace,	Drift,	11,729	
Lenore,	Mules and rope plane,	Furnace,	Drift,	26,841	
Lee,	Mules and rope plane,	Furnace,	Drift,	66,632	
Leland No. 1,	Mules and rope plane,	Exhaust fan,	Drift,	12,435	
Leland No. 2,	Mules and rope plane,	Furnace,	Drift,		
Lane Nos. 1 and 2,	Mules and rope plane,	Furnace,	Drift,	110,897	
Morrisdale No. 1,	Tail rope in mine,	Exhaust fan,	Shaft,	157,679	128,141
Morrisdale No. 2,	Electric,	Force fan,	Shaft,	38,347	41,813
Morrisdale No. 4,	Mules,	Furnace,	Drift,	8,892	
Morrisdale No. 5,	Mules,	Furnace,	Slope,	7,887	
Midvale,	Mules,	Furnace,	Drift,	11,885	
Moshannon,	Mules,	Exhaust steam,	Drift,	21,775	
Mapleton,	Mules,	Furnace,	Drift,	19,562	
Meadow Brook,	Mules,	Furnace,	Drift,	1,500	
Mt. Vernon No. 4,	Single rope,	Force fan,	Slope,		
Mt. Vernon No. 6,	Mules,	Force fan,	Shaft,	65,516	
Mt. Vernon No. 7,	Mules,	Furnace,	Drift,	363	
McCartney,	Mules,	Intend furnace,	Drift,	850	
Mountz,	Mules,	Furnace,	Drift,	12,610	
Ophir,	Mules,	Furnace,	Drift,	107,962	
Osceola No. 3,	Mules,	Furnace,	Drift,	13,943	
Orient,	Mules,	Furnace,	Drift,		
Parks,	Mules,	Furnace,	Drift,	18,953	
Queen,	Mules,	Furnace,	Drift,		
Reading,	Mules and rope plane,	Furnace,	Drift,	15,930	
Red Jacket,	Mules,	Furnace,	Drift,	2,605	
Sterling No. 3,	Mules and rope plane,	Furnace,	Drift,	38,600	
Schwinn,	Mules and rope plane,	Natural air,	Drift,	8,158	
Standard No. 1,	Mules,	Furnace,	Drift,	16,884	
Staffordshire,	Mules,	Furnace,	Drift,	12,144	
Shoff No. 2,	Mules,	Furnace,	Drift,	10,054	
Strachan,	Intend single rope and mules,	Intend furnace,	Slope,		
Troy,	Mules and rope plane,	Furnace,	Drift,	16,160	
Victor,	Mules,	Furnace,	Drift,	14,283	
Webster,	Mules and slope rope outside,	Furnace,	Drift,	126,829	
West Eureka No. 1,	Mules,	Force fan,	Drift,	41,286	
West Eureka No. 4,	Tail rope,	Force fan,	Slope,	161,041	
West Eureka No. 5,	Single rope,	Exhaust fan,	Slope,	52,433	
West Eureka No. 6,	Tail rope,	Fan,	Slope,	2,693.6	49,623.1
West Eureka No. 10,	Tail rope and plane,	Exhaust fan,	Drift,	215,407	
West Eureka No. 11,	Mules and plane,	Furnace,	Drift,	128,574	
West Eureka No. 12,	Mules,	Furnace,	Drift,	36,528	
West Eureka No. 13,	Mules and rope plane,	Furnace,	Drift,	59,698	

Remarks on Mining Machines.

There is only kind of mining machine used in this district—the "Puncher." It is operated by compressed air. While it may reduce the cost of production of coal, it is doubtful if the parties using it reap the benefit they expect. When a coal operator adopts mining machinery, it is with the purpose, of course, of realizing a profit from it, which I very much doubt if they will do, because there was such a rush for orders and places to sell the coal at the early part of the year, that the selling price has been ridiculously low, and for this reason I am of the opinion that after the larger operators all adopt machinery to mine coal, they will sacrifice the profits that they should reap from the said machines to the consumer, except that portion obtained by the manufacture of the machine. In regard to the merits and demerits of the various mining machines, I will not speak of the economy of any machines, except as to the health and safety of those employed in running them, and of the different machines operated by different systems, such as electric mining machines, with a revolving cutter bar, and puncher machine, operated by compressed air.

It is claimed that the cutter bar machines will mine more coal where there are no impurities than the puncher, but there are some defects that prove a great disadvantage. For instance as to the electric or compressed air machine with revolving cutter bar, it is a very heavy machine, weighing from twelve hundred pounds up, and is very long, requiring a very large space between the props placed to secure the roof over the operator, and the coal face where the machine is cutting the coal, thus causing the men to be exposed to greater danger from falls of roof than with the puncher or by pick mining. The insulation on the wires that conducts the electric current to operate the machine is another serious danger, from the fact that the insulation is exposed to the moisture of the atmosphere in the mine, and when it becomes saturated, it is no longer anywise insulated and the men are liable to get a severe shock, causing injury or loss of life, where the voltage is from two hundred and fifty to five hundred. Again, the machine becomes heated from the electric current, and gives off a noxious odor from burning grease or dust, which is unhealthy to breathe. And further, the cutter bar grinds the coal it cuts, into very fine dust, which is liable to ignition when blasting, and the miner has to charge his shots heavier to break the coal up so as to be able to load it, because the undercutting is only four inches high; while with the puncher machine its exhaust is an assistance to the ventilation. It gives off no noxious smell from heat because it keeps perfectly cool, and there are no electric wires to give shocks. The coal is of larger variety from the mining, having

less dust, and the space between the props and face of the coal is reduced at least one-fourth, which is less liable to cause injury to the miner from falls of roof. The machine is only one-half the weight, and can be moved in considerably less time, and can also be used to take the greater part of the pillars out; and when the coal is undercut it requires less powder to blast it down sufficiently to be loaded, from the fact that the mining is from twelve to eighteen inches high at the front, and the coal readily rolls over when blasted.

But any mining machine makes the atmosphere more unhealthy than pick mining, from the fact that there is more dust created, and there is constant blasting, which keeps the air foul from powder smoke.

In regard to the different systems of hauling, such as electric and compressed air, there is great disadvantage and danger in electric haulage in low veins as far as healthfulness and safety are concerned. The wires are suspended from the roof that conduct the current into the mine, are charged with from two hundred and fifty to five hundred and fifty volts, the latter being highly dangerous for a person to get a shock from, which is liable to occur to any one having to cross under the wires, because persons are always in a stooping position, and it is almost impossible for them to see the wires, consequently they come in contact with them, with the result that they are either severely burned or shocked sufficient to cause death, and this, in spite of the fact that electricians claim six hundred volts as the safety line. This claim has been repeatedly disproved at the cost of human life since its installation for haulage in mines. Of course, a good deal depends upon the condition of the person's system at the time he receives the shock. If a large size feed wire were put in use and thoroughly insulated except at points where the trolley wire was connected, then a low voltage, say two hundred and fifty, could be carried on trolley wire, with 550 carried at the power house, and with the assurance of having nearly the same voltage in the furthest parts of the mine, whereas by the present method the wire is so small that a high voltage has to be carried on trolley wire to insure sufficient power at the most distant points of the haulage system. But the economy of such a system of haulage has been considerable in some mines, to my own personal knowledge, where mules and rope were formerly in use, reducing the cost five cents per ton on one thousand tons per day. The making of roadways is considerably reduced, owing to their being able to make machines that will run where it would be impossible for mules to travel, which would not be the case with compressed air machines because they are so long that wide roads would have to be maintained at all curves. One thing in their favor is that they avoid liability to shock. I do not pretend to quote either machine as far as cost goes, but my opinion is that there would be no difference in

their ability to pull the same load under similar weight and conditions.

Mine Fires.

There have been two mine fires in the district during the year, and while we were fortunate not to have had any loss of life, considerable property was destroyed. The greatest loss of property was on the surface, and which extended into the mine. On December 15, at 5.40 A. M., a fire was discovered in the surface building of the Morrisdale Coal Company's No. 1 shaft in Clearfield county. It was discovered by the night watchman at the foot of the derrick of the hoisting shaft, where the fan is also situated. It was discovered in a small house used by the screen men, the house being heated by steam. The watchman at once blew the alarm fire whistle, but none of the officials were near enough to respond in time to save the buildings, and the fight was taken up by the firemen and watchmen, but unfortunately, the water pipes were enveloped in flames, cutting off the supply of water, and before many minutes the whole structure was a mass of flames. The hoisting shaft was a down-cast with a wood partition between it and the up-cast, where the fan was situated, but on the opposite of the shaft from where the fire originated, the heat was so intense that no one could get near the fan to check its speed, which was having the double effect of fanning the flames and causing the fire to descend the hoisting shaft. A current of forty thousand cubic feet of air was entering the mine at this time by that route, and about the time when the fire had gotten good hold of the lining of the shaft, the head frame crashed down in a burning mass of timber into the mine, at which time mine superintendent, Jas. Stafford, arrived on the scene, also other officials. They at once saw that the flames, if not checked, would set the coal and mine on fire. There were forty loaded cars immediately at the bottom of the shaft, and knowing that a large number of men would be in the mine at the time, he, with a force of men that had collected by that time, entered the mine from the slope, which is six hundred feet from the shaft, and is used as a man-way, and for part of the inlet of air. When he arrived at the bottom of the shaft he found the bottom in flames, also some of the mine cars loaded with coal, and, knowing that the fire had destroyed the boiler power, rendering steam pumps useless, a bucket brigade was formed and hand pumps put to work, realizing that if he could hold the fire in check until the partition between the down-cast and up-cast shaft were burned out, then the whole would be up-cast, and he could save the mine. He, at the same time, sent trusty men to call all men in the workings out of the mine, and in possibly thirty minutes the lining was burned, and both openings became up-cast. He then directed that all air be cut off at

Morrisdale Coal Co.'s Shaft, Showing Surface Buildings before Fire of December 15, 1899.

Morrisdale Coal Co.'s Shaft, Showing Surface Buildings after Fire of December 15, 1899.

the slope inlet, except sufficient to keep the place clear of smoke where the men were using the hand pumps. Seeing everything in a safe condition inside he then went outside, and telegraphed for a special train with fire engine from Philipsburg, which was quickly furnished, and which did efficient work in extinguishing the fire in the shaft by 9.30 A. M., I arrived with the engine and train, and went into the mine to be assured that everything possible was being done. I must say that great credit is due the superintendent for acting promptly when he got to the mine. His prompt action was the means of saving the interior of the mine and possibly valuable lives. The loss in property was the entire surface plant—engines, boilers, head-frames, and coal and bin for coke ovens, and a large amount of timber, together with several thousand props. The loss is estimated at thirty thousand dollars, not counting the loss of an output of coal of sixteen hundred tons per day, or that of the three hundred men thrown out of employment. Attached is a map of surface showing the buildings before the fire and the ruins after the fire.

The other fire spoken of was of small dimensions, and resulted in no loss except some pillars of coal on the crop line of the coal seam. This occurred on the sixth of September in Brian mine, situated at Hawk Run in Clearfield county, operated by J. Swires & Co. There was a small shaft sunk for a return air route, and they had actually started a fire beside the coal pillars to produce ventilation, and as the mine was idle for a few days at the time, the fire got a good start of the pillar, and when one of the miners notified the man in charge, who was also a miner, that the coal was on fire, he paid no attention, only making the remark that he could kick it out when he was ready, and it was allowed to go three days before any attempt was made to extinguish it, at which time they found it impossible to do so. They then ordered a fire engine from Philipsburg, and notified me for the first time that there was a fire, and that they had for two weeks men enough employed to come under the provision of the law. I arrived at the mine with the fire company, and on inquiry was notified that they intended pouring water from the hose down through the breaks in the strata where the fire seemed to be issuing out. I tried to advise them to get a vertical fan and engine, telling them where to get it, and establish a permanent circulation there and remove the foul gases that were on roadways of the mine, issuing from the fire, but they would not accept this method, and so fight the fire direct from the inside. Seeing that there was no one in the mine, I had no time to waste on their foolish methods and left the premises, after warning them not to go into the foul gas until more permanent ventilation had been established. I left the premises at eleven A. M., and visited a small mine one mile away on a regular inspection. I got out at 1 P. M., and not being satisfied that they would do as directed, I re-

turned at 2 P. M., and found that they had gone into the mine, and saw the foreman crawl up a hose that they had down a twelve foot deep shaft. He informed me that he had all he could stand, and also that he had ordered all the men and officials out, but that they refused to go. Seeing his condition, I went for the two owners and others, and found one of them lying on the ground, and on inquiry, was told that he was resting himself. He then attempted to crawl out the shaft up the hose, and when four feet from the bottom he was overcome from the effects of the gas. I ordered him taken down and out of the mine, and I have no doubt that they would all have been in a similar condition had I not arrived on the premises at the time. I then compelled them to put in stone stoppings between the solid workings and the fire, to seal it off, which was effectually done, but in some cases the stoppings had to be doubled in order to keep the fire in check. When they commenced operating again, I sued the foreman and superintendent for violation of sections 1, 2 and 5 of Article 2, and Sections 1, 3 and 6 of Article 6 of the Bituminous mine law before they could be made to operate the mine in a legal manner. The cases were left in the hands of the justice of the peace on their paying the costs and promising to do better in the future.

Condition of Mines.

The general condition of the mines during the year, where permanent and substantial operations are located, has been good, the most defective being those opened to take out small pieces of territory on the crop line of property abandoned by larger firms years ago.

The Jefferson county mines in this district are all operated by the one firm—the Berwind-White Coal Mining Co, and are always kept in very fair condition.

West Eureka No. 1 mine has a fan capable of producing 80,000 cubic feet of air per minute, with one-inch water gauge, which is sufficient volume for five times the number of men that have been employed during the year.

West Eureka No. 5 mine is nearly finished, the coal territory being nearly exhausted. The ventilation and drainage have been in good condition with from 25,000 to 36,000 cubic feet of air in circulation.

West Eureka No. 6 mine has been kept in very good condition, with 70,000 cubic feet of air in circulation, and since the two tunnels have been driven through the seven hundred feet of sand rock fault, the coal seam beyond is being rapidly developed.

West Eureka No. 10 mine has had some local defects in ventilation and drainage, owing to sand rock rolls cutting out the coal, and making it impossible to cause the air to be proportioned all through the mine. The same cause operated against good drainage.

West Eureka No. 11 mine has been well ventilated during the year with from 7,000 to 10,000 cubic feet of air at face of main heading, and 44,000 cubic feet of air at the furnace.

West Eureka No. 12 mine was in very good condition with 25,600 cubic feet of air at the furnace, and 7,200 cubic feet at face of workings. Coal territory is nearly exhausted.

West Eureka No. 13 mine is in very good condition with 17,000 cubic feet of air at the return, and 6,600 cubic feet of air at face of headings. A new pair of drifts have been opened.

The mines in Centre county have all been kept in good condition in regard to drainage and ventilation, with few exceptions.

Orient Mine, located at Sandy Ridge, has had from 12,000 to 20,000 cubic feet of air at the return, with 9,000 cubic feet of air at the face main left dip.

Ghem Mine is always in fair condition, but the mine is becoming too extensive for the power of the present furnace, and the company is considering the advisability of sinking a new furnace shaft nearer the solid workings to meet the demands. 5,000 cubic feet of air being measured at face of extreme heading, with 8,885 cubic feet of air at the furnace.

Electric mine has been in very fair condition, with 3,000 to 7,000 cubic feet of air measured at face of heading, and 20,000 passing the furnace at the outlet.

Standard No. 1 mine is only of small capacity, but it was in good condition as far as ventilation was concerned, having 2,160 f air at face of heading and 5,400 cubic feet of air at the furnace. Some local defects exist in the drainage.

Osceola No. 3 has been kept in fair condition, with 7,560 cubic feet of air in circulation at outlet, and 6,000 cubic feet at face of heading.

Bear Run mine was in fair condition, having 9,360 cubic feet of air passing out of the return and 4,800 cubic feet of air at the face of main heading.

Pheonix mine was well drained and ventilated during the year, with 9,000 cubic feet of air measured at the furnace return, and 5,200 cubic feet at face of heading. A much needed new manway has been made at the extreme working face, which is up to the requirements of the Bituminous mine law, the one that was put to this use was opened probably eighteen or twenty years ago, when anything in the shape of a hole in the ground was thought to be sufficient.

Eureka No. 21.—Ventilation has kept fairly good at all times, having 14,600 cubic feet of air passing out at the furnace, and 2,160 at face of heading. Very soft bottom, together with springs of water, renders it difficult to maintain good drainage.

Ophir mine has always been well drained, and ventilated since new air shafts and furnace have been in operation, having 5,400 to

7,000 cubic feet of air at face of heading, and 19,600 cubic feet measured at the furnace.

Mines in Clearfield Co. Commencing with the Large Operators.

Eureka No. 5 slope is kept in very fair condition, having fairly good drainage and a good volume of air well circulated, 44,000 cubic feet of air entering the shaft inlet, split in two currents, and 6,000 to 7,000 cubic feet reaching face of heading.

Eureka No. 7 shaft is in very fair condition, with 51,300 cubic feet of air entering inlet, split in three currents, and reaches face of heading in volumes of from 3,600 to 7,500 cubic feet of air.

Eureka No. 13 mine was well ventilated when in operation, but is now abandoned.

Eureka No. 16 mine has a good volume of air, splits were not properly regulated; however, the air was always in a healthful condition, with from 2,640 to 6,000 cubic feet of air passing face of heading, and 32,400 at the fan inlet.

Eureka No. 18, the ventilation is always in good condition, with 22,960 cubic feet of air measured at the furnace, and 5,800 cubic feet measured at face of heading. Some defects exist in drainage.

Eureka No. 19 mine is well drained and ventilated, having 21,500 cubic feet of air entering the inlet, split in three currents, reaching face of headings in volumes of 3,800 to 4,600 cubic feet of air.

Eureka No. 22 mine is well ventilated and drained, considerable expense having put on the latter so that water could be carried off without the aid of pumps, which has had a good effect. 52,000 cubic feet of air was measured at fan inlet going through the mine in three currents of 14,600, 14,800 and 10,080 cubic feet volume.

Eureka No. 24 mine is well drained and ventilated, air being in one current reaching the face of heading in volume of 12,000 cubic feet, with 16,800 cubic feet measured at furnace return.

Atlantic No. 1 mine is well drained, with very fair volumes of air reaching the working faces, split in three currents of 10,000, 16,000 and 4,950 cubic feet each, with 57,600 cubic feet measured at fan inlet.

Atlantic No. 2 mine has been abandoned by the Berwind-White Coal Mining Co., but was well drained and ventilated while in operation, with 16,000 cubic feet of air in circulation.

Morrisdale No. 1 shaft was very fairly ventilated in majority of places for the quantity of powder used. Some places, however, could have been in better condition, if the foreman had paid more attention to this particular. 64,400 cubic feet of air was returning up fan shaft in June, going through the mine in four currents of 10,800, 9,200, 10,000 and 14,400 cubic feet volume, reaching face of heading in volumes of from 2,00 to 8,000 cubic feet. Some defects existed in drainage from the numerous swamps and rock rolls.

Morrisdale No. 2 mine was well drained and ventilated on my last visit except in Morrisdale heading. Both were defective, but were being speedily relieved by driving north heading through sand rock rolls and cutting into face of Morrisdale heading. 19,040 cubic feet of air was measured in the return, with 16,800 at face of Pardee, 2,340 in defective section and 9,000 at face of north heading.

Morrisdale No. 4 drift was well ventilated for the few men employed, there being from 8,000 to 10,000 cubic feet of air going through the mine.

Morrisdale No. 5 mine was opened to take out small piece of Moshannon coal left in other operation, and had only natural ventilation, which kept the mine in very fair condition.

Maple mine was well drained and ventilated for the few men employed; 2,500 cubic feet of air was measured at face of right heading, and 14,000 cubic feet at the furnace.

Troy mine is well drained and ventilated; 5,200 cubic feet of air measured at face of heading, and 10,800 cubic feet at the furnace return.

Acme Nos. 1 and 2 mines were idle on my last visit, but the volume of 34,000 cubic feet of air measured at the fan was fairly well conducted, but is insufficient in volume to keep all parts of the mine free from noxious gases, considerable black damp or carbon dioxide being given off, but the uncertainty of the administrators in charge continuing to act in that capacity, has deterred them from introducing a larger ventilator.

Webster No. 4 mine has had considerable attention paid to the drainage during the year, the main headings being well drained. Some local defects still exist in several cross headings. The ventilation on my visit in November was very fair, with a total column of 36,800 cubic feet of air passing out of the mine, and from 3,360 to 8,250 cubic feet of air passing out of the mine, and from 3,360 to 8,250 cubic feet reaching face of heading.

Lane Nos. 1 and 2 mines were kept in good condition with regard to drainage and ventilation during the year, a new furnace shaft having been sunk at face of main heading in Moshannon seam of coal and a substantial furnace built, which is all that could be desired.

Gearhart mine had 19,500 cubic feet of air passing out the furnace shaft on my visit in November, with 6,300 and 3,840 cubic feet reaching face of heading. Some local defects were discovered in air current, but the drainage was very good.

Lee mine is a small operation, and was employing more than nine persons for a few weeks the earlier part of the year, but was well ventilated when visited for the few men at work.

Fairmount No. 1 mine was well ventilated, with 1,440 cubic feet of air at face of heading, and 14,000 at the furnace. Drainage was also in fair condition.

Fairmount No. 2 mine had 15,600 cubic feet of air passing out at the furnace, with 4,500 cubic feet measured at face of heading, which kept the mine in very fair condition.

Guion mine was very poorly drained and ventilated during the early part of the year, and was idle a great portion of the time, but from reports of the mine since the new management is in charge, I am of the opinion that it will be improved.

Cuba mine was well ventilated, with 7,500 cubic feet of air passing out of the mine, and 5,200 reaching face of heading. There were some defects in drainage.

Colorado No. 2 has 9,900 cubic feet of air measured at the furnace with from 3,200 to 4,600 cubic feet passing face of heading, which kept the workings in very fair condition; the drainage was very fair.

Glenwood Nos. 1 and 2 mines were well ventilated during the year with 12,000 cubic feet of air in No. 1 and 5,600 in No. 2 going in one and two mines, 4,200 reaching face of heading; the drainage was very fair.

Decatur No. 1 mine was idle during the early part of the year, but since it has become the property of the Bloomington Coal Co., it has been in constant operation, and was well ventilated and fairly well drained. 21,600 cubic feet of air was measured at the furnace, and from 3,000 to 7,000 at face of heading.

Decatur No. 2 had defective air at face of main heading, but has since been relieved by sinking a new air shaft at that point.

Baltic No. 1 mine had 7,200 cubic feet of air, and No. 2 11,400 cubic feet passing out of the mine, which was well circulated in the different headings, reaching the workmen in volume of from 3,000 to 6,000 cubic feet. Drainage has still some defects which will be hard to overcome when withdrawing heading pillars.

Ashman mine was very dry on all roads, the ventilation was not properly conducted to face of heading, but they had promised to improve it, the defects being on second right, Straight and Davis headings. 9,450 cubic feet of air was measured passing the furnace.

O'Brien No. 1 mine is now abandoned, coal having been all taken out of the section that was adjoining the fire reported in mine fires, but was well ventilated after the fire was held in check by stone stoppings.

Hobson mine depends on natural ventilation for circulation, and was in very fair condition with 6,000 and 3,900 cubic feet of air measured at the turn.

Colorado No. 3 mine was well drained and ventilated on my last visit, with 5,400 and 6,600 cubic feet of air measured at face of headings and 10,000 at the furnace.

Leland No. 1 mine had some defects in ventilation and drainage, which the superintendent promised to have remedied; 22,280 cubic

feet of air was passing into the mine in two currents, which reached the face of one heading in a volume of 1,750 cubic feet, which is not sufficient.

Leland No. 2 mine was in good condition when visited, having 16,000 cubic feet of air for sixteen men employed.

Leland No. 3 mine has 8,640 cubic feet of air passing the furnace, which reaches the face of heading in a volume of 3,000 cubic feet, and keeps the workings well ventilated; drainage was very fair.

Imperial No. 1 mine has not adequate apparatus which is in the shape of a furnace to keep the necessary volume of air circulating through the mine, only 9,240 cubic feet was measured at furnace shaft, which is insufficient. A request has been made for larger volume; drainage was also found defective.

Kentuck mine was idle at three of my visits, but when in operation was in fair condition for the number of men employed, having 6,700 cubic feet of air in circulation.

Belsena No. 3 mine has been considerably improved both in drainage and ventilation, and at this time is in very fair condition, having 14,000 cubic feet of air measured at furnace, and 3,000 cubic feet at face of heading.

Sterling No. 3 mine had rather defective air at face of rooms on my last visit, and the foreman was directed to put up more check doors; 2,400 and 4,400 cubic feet of air was measured at face of heading, and 10,400 cubic feet at the furnace. Some defects were discovered on roadways in drainage.

Jefferson mine has 11,200 cubic feet of air passing out at the furnace with 3,600 and 7,200 cubic feet passing to face of heading, but a local defect existed in left heading; drainage was very fair.

Raybold No. 2, formerly called Grampian No. 2, was found in very fair condition both in drainage and ventilation, having 22,000 cubic feet of air passing out of the mine, and 2,400 and 6,300 cubic feet of air measured at face of the two headings in operations.

Bessemer mine was fairly well drained and ventilated for the few men employed, having 5,600 cubic feet of air at furnace, which is at face of workings.

Leader mines Nos. 1 and 2 were in fair condition, having 4,800 cubic feet of air circulating at furnace with numerous breaks along the workings.

Lancashire No. 1 was not in proper condition, ventilation being defective, owing to the poor condition of the stoppings or brattices, which I requested the forman to improve; drainage has some defects.

Alexander mine was kept in good condition in drainage and ventilation, with 9,600 cubic feet of air at face of main heading, and 11,200 cubic feet at the furnace return.

Moshannon mine was idle on my several visits during the year, but has less than ten persons employed, and was withdrawing heading stumps.

Parks mine was well drained, with a fair volume of air in circulation, having 4,320 and 3,780 cubic feet at face of headings, and 12,400 cubic feet measured at the furnace.

Mapleton mine has a natural current of 6,600 cubic feet of air in circulation passing out the old furnace shaft at face of main heading, where pillars are being taken out.

Hobson mine is an opening on the crop line, taking out coal left by other operators, and has natural ventilation, with 3,111 cubic feet measured at face of heading, having numerous openings through broken strata to the surface.

Reading mine in E seam has rather defective ventilation, but they were driving to connect with a furnace shaft which would improve the air, while the D seam was well ventilated with 16,000 cubic feet of air measured at the furnace, and 4,800 cubic feet at surface of heading.

Black Diamond mine, formerly called Columbia No. 5, has 12,500 cubic feet of air measured at the furnace and 3,000 at face of heading.

Whiteside No. 1 mine was in fair condition for the few men employed, having 3,111 cubic feet of air at face of heading, and 4,800 at the furnace shaft.

Staffordshire mine was always found in healthful condition, with 9,200 cubic feet of air passing out of mine, and 3,000 at face of headings.

Midvale No. 1 mine was always found in poor condition, both in ventilation and drainage, and is an operation that it would be hard to advise how to remedy defects, owing to the coal territory being only a small pillar or piece of coal that they may find in old workings, abandoned years ago as being completely exhausted.

Loraine mine was always idle on my visits, and therefore has not been very active during the whole year.

Shoff No. 2 is a new mine opened on a small piece of coal supposed to contain twelve acres, and has been kept in a healthful condition; some defects exist in the drainage on main haulage way. This mine adjoins Shoff No. 1, which did contain a large volume of water, possibly two acres with five feet of head, and which was successfully tapped and drained off through No. 2 mine during the year.

Schwinn mine came under the provisions of the Bituminous mine law some time in October, since which time I have not visited it.

Friendship mine is another mine just opened to take out crop coal left by other operators.

Henrietta mine, formerly called Atlantic No. 2, has commenced operations again under another company, and should be in good condition.

Banion mine had only had nine men employed during the year, but a new manway has been opened on eighteen degree pitch so as to be in condition when ready to employ more miners.

Red Jacket mine is a new operation not yet completed, and McCartney, Highland and Bird's Eye mines are in the same catagory.

Meadow Brook had only nine men employed during the year, therefore did not come under inspection.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Eighth Bituminous District, 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Eureka No. 5,	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Eureka No. 7,	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Eureka No. 13,*	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Eureka No. 16,	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Eureka No. 18,	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Eureka No. 19,	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Eureka No. 21,	Centre,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Eureka No. 22,	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Eureka No. 24,	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Atlantic No. 1,	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Atlantic No. 2,*	Clearfield,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
West Eureka No. 1,	Jefferson,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
West Eureka No. 4,	Jefferson,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
West Eureka No. 5,	Jefferson,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
West Eureka No. 6,	Jefferson,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
West Eureka No. 10,	Jefferson,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
West Eureka No. 11,	Jefferson,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
West Eureka No. 12,	Jefferson,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
West Eureka No. 13,	Jefferson,	Berwind-White Coal Mining Co.,	Thos. Fisher,	Philadelphia.
Morrisdale No. 1 Shaft,	Clearfield,	Morrisdale Coal Co.,	J. E. Hedding,	Morrisdale Mines.
Morrisdale No. 2 Shaft,	Clearfield,	Morrisdale Coal Co.,	J. E. Hedding,	Morrisdale Mines.
Morrisdale No. 4 Shaft,	Clearfield,	Morrisdale Coal Co.,	J. E. Hedding,	Morrisdale Mines.
Morrisdale No. 5 Shaft,	Clearfield,	Morrisdale Coal Co.,	J. E. Hedding,	Morrisdale Mines.
Tipple Nos. 4 and 5,	Clearfield,	Morrisdale Coal Co.,	J. E. Hedding,	Morrisdale Mines.
Model,	Clearfield,	Morrisdale Coal Co.,	J. E. Hedding,	Morrisdale Mines.
Acme No. 1,	Clearfield,	Estate of O. P. Jones,	Robt. L. Scott,	Philipsburg.
Acme No. 2,	Clearfield,	Estate of O. P. Jones,	Robt. L. Scott,	Philipsburg.
Allaster No. 4,	Clearfield,	Beulah Coal Co., Ltd.		
Lane Nos. 1 and 2,	Clearfield,	John F. & H. Todd.		
Mt. Vernon No. 6,	Clearfield,	G. L. Whitehead & Co.,	John Whitehead,	Houtzdale.
Standard No. 1,	Centre,	G. L. Whitehead & Co.,	John Whitehead,	Houtzdale.
Standard No. 2,*	Centre,	G. L. Whitehead & Co.,	John Whitehead,	Houtzdale.
Standard No. 3,†	Centre,	G. L. Whitehead & Co.,	John Whitehead,	Houtzdale.
Standard No. 5,	Clearfield,	G. L. Whitehead & Co.,	John Whitehead,	Houtzdale.
Gearhart,	Clearfield,	Thos. J. Lee & Co., Limited,	Thos. J. Lee,	Philipsburg.
Lee,	Clearfield,	Thos. J. Lee & Co.,	Thos. J. Lee,	Philipsburg.
Greene,	Clearfield,	Thos. C. Heins & Co.,	Thos. C. Heins,	Osceola Mills.
Phoenix,	Centre,	Thos. C. Heins & Co.,	Thos. C. Heins,	Osceola Mills.
Fairmount No. 1,	Clearfield,	Morris Liveright,	Henry Liveright,	Osceola Mills.
Fairmount No. 2,	Clearfield,	Morris Liveright,	Henry Liveright,	Osceola Mills.
Phoenix,	Centre,	Morris Liveright,	Henry Liveright,	Osceola Mills.
Gazza,	Clearfield,	John G. Platt.		
Cuba,	Clearfield,	John G. Platt.		
Colorado No. 2,	Clearfield,	John G. Platt.		
Glenwood Nos. 1 and 2,	Clearfield,	Williams, Morris & Co.,	D. M. Williams	
Decatur No. 1,	Clearfield,	Peale, Peacock & Kerr,	Alex. Dunsmore,	Philipsburg.
Decatur No. 2,	Clearfield,	Peale, Peacock & Kerr,	Alex. Dunsmore,	Philipsburg.

Decatur No. 3,‡	Clearfield,	Peale, Peacock & Kerr,	Alex. Dunsmore,	Philipsburg.
Baltic Nos. 1 and 3,	Clearfield,	Thos. Barnes,	J. E. Johnson,	Philipsburg.
Ophir,	Centre,	Ophir Coal Co.		
Ashman,*	Clearfield,	J. Swires & Co.,	J. Swires,	Philipsburg.
Obrien No. 1,‡	Clearfield,	J. Swires & Co.,	J. Swires,	Philipsburg.
Obrien No. 2,‡	Clearfield,	J. Swires & Co.,	J. Swires,	Philipsburg.
Colorado No. 3,	Clearfield,	D. Atherton,	John Morris,	Hawk Run.
Leland No. 1,	Clearfield,	Cambria Coal Mining Co.		
Queen or Leland No. 2,	Clearfield,	Cambria Coal Mining Co.		
Queen or Leland No. 3,	Clearfield,	Cambria Coal Mining Co.,	Albert S. Brown,	Osceola Mills.
Imperial No. 1,	Clearfield,	Coaldale Mining Co.,	R. L. Scott,	Philipsburg.
Kentuck,	Clearfield,	J. R. Fleming.		
Belsena No. 3,	Clearfield,	W. T. Rainey & Co.		
Sterling No. 2,	Clearfield,	M. & F. Craig,	M. Craig,	Brisbin.
Sterling No. 3,	Clearfield,	M. & F. Craig,	M. Craig,	Brisbin.
Jefferson,	Clearfield,	Adams & Co.,	Geo. B. Friday,	Philipsburg.
Ghem,	Centre,	Ghem Coal Co.		
Raybold No. 2,‡	Clearfield,	M. Burns,	M. Burns,	Brisbin.
Bessemer No. 1,	Clearfield,	M. Burns,	M. Burns,	Brisbin.
Leader Nos. 1 and 2,	Clearfield,	R. & H. M. Hughes,	H. M. Hughes,	Osceola Mills.
Lancashire Nos. 1 and 2,	Clearfield,	Jno. Barnes & Sons,	Jos. Barnes,	Philipsburg.
Alexandra,	Clearfield,	Thos. Blythe,	Thos. Blythe,	Madera.
Parks,	Clearfield,	Moshannon Coal Mining Co.,	C. H. Rowland,	Houtzdale.
Moshannon,	Clearfield,	Harbison Walker Co.,	H. M. Kurtz,	Clearfield.
Mapleton,	Clearfield,	P. Gallagher,	Thos. Duggan,	Osceola Mills.
Hobson,‡	Clearfield,	Johnson & Hess,	E. Johnson,	Philipsburg.
Reading,	Clearfield,	Penn Iron Co.,	H. Burrowes,	Reading.
Black Diamond,‡	Clearfield,	R. A. Jackson.		
Shade,	Clearfield,	R. A. Jackson.		
Osceola No. 3,	Centre,	J. R. Brown,	J. R. Brown,	Osceola Mills.
Whiteside No. 1,	Clearfield,	S. J. Mountz,	S. J. Mountz,	Moran.
Staffordshire,	Clearfield,	Christoff Bros. & Co.,	E. Christoff,	Brisbin.
Midvale Nos. 1 and 2,	Clearfield,	W. A. Gould,	W. A. Gould,	Brisbin.
Loraine,	Clearfield,	Rearkirk Bros. & Co.,	F. A. M. Boynsburgh,	Philadelphia.
Bear Run,	Centre,	L. M. Wilson,	L. M. Wilson,	Blairstown, N. Y.
Shoff No. 2,‡	Clearfield,	Townsend & Milsom,	C. H. Milsom,	Philipsburg.
Schwinn,	Clearfield,	H. Schwinn,	H. Schwinn,	Houtzdale.
Friendship No. 1,‡	Clearfield,	Geo. Lobb & Co.,	Geo. Lobb,	Brisbin.
Henrietta No. 1,‡	Clearfield,	Geo. Lobb & Co.,	Geo. Lobb,	Brisbin.
Gossrun No. 1‡,	Clearfield,	Geo. Lobb & Co.,	Geo. Lobb,	Brisbin.
Banion,	Clearfield,	Jas. Gatehouse,	Jas. Gatehouse,	Madera.
Grampian No. 1,	Clearfield,	Wm. J. Jackson.		
Red Jacket,‡	Clearfield,	J. B. Irish & Co.,	Geo. Stott,	Philipsburg.
McCartney,‡	Clearfield,	McCartney Coal Co.,	Geo. S. Copelin,	McCartney.
Highland,	Clearfield,	J. F. Stott,	J. F. Stott,	Philipsburg.
Meadowbrook,	Clearfield,	H. McD. Loraine,	H. McD. Loraine,	Philipsburg.
Birds Eye,‡	Clearfield,	Wm. Casker,	Wm. Casker,	Houtzdale.
Victor No. 2,	Clearfield,	Thos. Woods,	Thos. Woods,	Victor P. O.
Orient No. 4,	Centre,	Blair Bros.,	H. C. Blair,	Tyrone.

*Abandoned mines.

‡Mines changing name and owner.

‡New mines.

TABLE I—Continued.

Names of Collieries	Name of Superintendent.	Post Office Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Eureka No. 7	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	James Delves.	
Eureka No. 7.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	James Schurfield.	
Eureka No. 13.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	David Blythe.	
Eureka No. 16.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	Robt. Lees.	
Eureka No. 18.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	James Blade.	
Eureka No. 19.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	Geo. Cummins.	
Eureka No. 21.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	Wm. Pollock.	
Eureka No. 22.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	John Millsom.	
Eureka No. 24.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	John Allen.	
Atlantic No. 1.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	Benj. Badman.	
Atlantic No. 2.	A. S. R. Richards,	Osceola Mills,	W. R. Cameron,	Abandoned.	
West Eureka No. 1	A. J. Cook,	Horatio,	Thos. J. Richards,	Jos. Williams.	
West Eureka No. 4	A. J. Cook,	Horatio,	Thos. J. Richards,	R. M. Walker.	
West Eureka No. 5.	A. J. Cook,	Horatio,	Thos. J. Richards,	Jos. Williams.	
West Eureka No. 6.	A. J. Cook,	Horatio,	Thos. J. Richards,	Thos D. Morgan	
West Eureka No. 10.	A. J. Cook,	Horatio,	Thos. J. Richards,	E. T. Reese.	
West Eureka No. 11.	A. J. Cook,	Horatio,	Thos. J. Richards,	Jas Woods.	
West Eureka No. 12	A. J. Cook,	Horatio,	Thos. J. Richards,	John Clark.	
West Eureka No. 13.	A. J. Cook,	Horatio,	Thos. J. Richards,	Eleazer Higgins.	
Morrisdale No. 1 Shaft.	James Stafford,	Morrisdale Mines,		R. I. Nicholls.	
Morrisdale No. 2 Shaft.	James Stafford,	Morrisdale Mines,		J. C. McDermott	
Morrisdale No. 3 Shaft.	James Stafford,	Morrisdale Mines,		Aaron Fuller.	
Morrisdale No. 5 Shaft.	James Stafford,	Morrisdale Mines,		Jas. Stafford.	
Troy Nos. 4 and 5.	James Stafford,	Morrisdale Mines,		John Gimlek	
Mabel.	James Stafford,	Morrisdale Mines,		A. P. Isenberg.	
Acme No. 1.	Robt. L. Scott,	Philipsburg,	D. M. Jones,	D. R. Philips	
Acme No. 2.	Robt. L. Scott,	Philipsburg,	D. M. Jones,	John Ball	
Webster No. 4.	Jas. H. Minds,	Ramey,		John Stoker.	
Lane Nos. 1 and 2.	John P. Todd,	Philipsburg,		Saml. Sykes.	
Mt Vernon No. 6.	Thos. C. Whitehead,	Houtzdale,	C. W. Martin,	Jonathan Hutchison.	J. Hutchison.
Standard No. 1.	Thos. C. Whitehead,	Houtzdale,	C. W. Martin,	Robt. Whitehead.	F. Rogers.
Standard No. 2.	Thos. C. Whitehead,	Houtzdale,	C. W. Martin,	Robt. Whitehead.	Jno. Clifford.
Standard No. 3.	Thos. C. Whitehead,	Houtzdale,	C. W. Martin,	Robt. Whitehead	H. Hawkins.
Standard No. 5.	Thos. C. Whitehead,	Houtzdale,	C. W. Martin,	Only few men	
Gearhart.				Ricd. Lobb	
Lee.				John McGowan.	
Lenore.	Thos. C. Heins,	Osceola Mills,		Chas. Rodden	
Electric.	Thos. C. Heins,	Osceola Mills,		Wm. S. Edwards.	
Fairmount No. 1				J. C. Burns.	
Fairmount No. 2.				Jas. Green.	
Phoenix.				J. C. Howard	
Guban	Wm. Powell, Jr.	Philipsburg,		D. B. Patrick	
Cuba.	Wm. Powell, Jr.,	Philipsburg,		Jos. Wheatley.	
Colorado No. 2.	Wm. Powell, Jr.	Philipsburg,		Wm. Gates.	
Glenwood Nos. 1 and 2.	J. C. Campbell			C. E. Paul,	C. E. Paul
Decatur No. 1.	John C. Dunsmore,	Philipsburg,		John E. Hawkins	
Decatur No. 2.	John C. Dunsmore,	Philipsburg,		John E Hawkins	

Decatur No. 3.‡	John C. Dunsmore,	Philipsburg.		
Baltic Nos. 1 and 3,				Chas. Milsona.
Ophir,	George Stott,	Philipsburg,		M. Wayne.
Ashman,	George Stott,	Philipsburg,		John Tait.
Obrien No. 1,‡	George Stott,	Philipsburg,		Wm. Bell.
Obrien No. 2.*				
Colorado No. 3,	John Morris,	Hawk Run,		John Morris.
Leland No. 1,	E. S. Brubaker,	Smoke Run,		John Click.
Queen or Leland No. 2,	S. Lewis,	Smoke Run,		E. S. Brubaker.
Queen or Leland No. 3,			Martin Duggan,	Abbt. Howe.
Imperial No. 1,	J. R. Fleming,	Philipsburg,		T. R. Fleming.
Kentuck,	J. R. Fleming,	Philipsburg,		Jas. Dunsmore.
Belsena No. 3,	J. H. Klock,	Belsena,		W. J. Eicher.
Sterling No. 2,				M. Craig.
Sterling No. 3,				M. Craig.
Jefferson,				J. C. Johnson.
Ghem,	W. R. Houtz,	Osceola Mills,		Saml. E. Pfoutz.
Raybold No. 2.‡				D. J. Riordan.
Bessemer No. 1,				Jas. King.
Leader Nos. 1 and 2,				F. O'Rourke.
Lancashire Nos. 1 and 2,				Geo. Minns.
Alexandra,				Wm. Blythe.
Moshannon,				John Faret.
Parks,	John M. Baker,	Woodland,		J. M. Baker.
Mapleton,				Thos. Duggan.
Hobson,‡				Wm. McCann.
Reading,	C. Maher,	Osceola Mills,		C. Maher.
Black Diamond,‡				John O'Neil.
Shade,				
Osceola No. 3,				Jas. Logan.
Whiteside No. 1,				Geo. Maxwell.
Staffordshire,				W. Todd Hunter.
Midvale Nos. 1 and 2,				J. R. Farrell.
Loraine,	Geo. Gould,	Brisbin,		Geo. Gould.
Bear Run,	Robt. Cole,	Houtzdale,		Robt. Cole.
Shoff No. 2.‡				E. Hughes.
Schwinn,				W. Todd Hunter.
Friendship No. 1,‡	Geo. Lobb,	Brisbin,		Dan'l D. Jones.
Henrietta No. 1,‡	Geo. Lobb,	Brisbin.		
Gossrun No. 1‡	Geo. Lobb,	Brisbin,		Thos. Stoker.
Bauon,				Jas. Gatehouse.
Grampian No. 1,	Wm. Fitzgerald,	Osceola Mills,		Wm. Fitzgerald.
Red Jacket,‡				M. Walker.
McCartney,‡				John Allen.
Highland,				Thos. Jones.
Meadowbrook,				Jos. Higham.
Birds Eye,‡				Paul Hyde.
Victor No. 2,				Wm. Wood.
Orient No. 4,	C. H. Blair,	Tyrone,		Saml. Twiggs.

*Abandoned mines.

†Mines changing name and owner.

‡New mines.

TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Eighth Bituminous District for the year ending December 31, 1899.

Names of Operators and Collieries.	County.	Shipments of coal in tons by rail or otherwise.	Quantity used at colliery for steam and heat—tons.	Sold to local trade and used by employes tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Berwind-White Coal Mining Co.													
Eureka No. 5,	Clearfield,	142,659.02	4,555.0	343.8	147,557.82	.....	255	152	.....	.....	234	.....	97
Eureka No. 7,	Clearfield,	141,644.94	2,249.4	371.8	144,266.14	.....	262	166	.....	.....	550	.....	28
Eureka No. 13,	Clearfield,	16,163.73	.....	.....	16,163.73	.....	228	90	1	1	40	.....	3
Eureka No. 16,	Clearfield,	120,321.14	792.8	135.5	121,249.74	.....	268	151	.....	1	436	.....	15
Eureka No. 18,	Clearfield,	84,297.92	280.6	86.2	84,664.72	.....	256	90	.....	1	242	.....	17
Eureka No. 19,	Clearfield,	170,442.90	1,295.3	186.9	171,825.10	.....	264	161	1	.....	910	.....	...
Eureka No. 21,	Centre,	57,478.86	222.8	24.6	57,726.26	.....	245	62	1	1	463	.....	10
Eureka No. 22,	Clearfield,	194,510.81	1,787.5	291.2	196,589.51	.....	277	204	.....	.....	819	.....	.....
Eureka No. 24,	Clearfield,	48,475.22	595.9	120.9	49,192.62	.....	236	44	.....	.....	.....	.....	6
Atlantic No. 1,	Clearfield,	191,563.70	4,393.7	202.7	199,160.10	.....	293	198	1	3	216	.....	16
Atlantic No. 2,	Clearfield,	40,629.62	520.1	17.9	41,167.62	.....	209	49	.....	.....	.....	.....	.....
West Eureka No. 1,	Jefferson,	46,240.88	.....	.....	46,240.88	.....	291	54	.....	.....	1,100	113	3
West Eureka No. 4,	Jefferson,	179,957.59	210.8	198.2	180,366.59	.....	194	250	1	1	2,200	377	26
West Eureka No. 5,	Jefferson,	56,886.52	1,821.1	17.9	58,725.52	.....	226	73	1	.....	1,200	.....	3
West Eureka No. 6,	Jefferson,	48,610.98	9,578.7	3.9	58,593.58	.....	276	70	.....	.....	100	14,157	10
West Eureka No. 10,	Jefferson,	239,542.76	1,716.5	26.8	241,256.06	.....	295	262	.....	3	1,913	200	23
West Eureka No. 11,	Jefferson,	142,296.29	95.4	1,701.3	144,092.99	.....	257	141	.....	.....	1,200	190	12
West Eureka No. 12,	Jefferson,	40,967.86	.....	.....	40,967.86	.....	288	87	.....	.....	240	.....	13
West Eureka No. 13,	Jefferson,	66,862.38	.....	.....	66,862.38	.....	276	84	.....	.....	600	760	3
Totals,		2,032,433.42	30,425.6	3,729.6	2,066,588.62	.....	*18	2,268	7	11	12,403	15,799	235

Morrisdale Coal Mining Co.													
Morrisdale No. 1 Shaft,	Clearfield,	244,788.32	6,498.2	3,015.0	320,118.40	38,668	247	325	2	8	2,220	750	37
Morrisdale No. 2 Shaft,	Clearfield,	87,706.10	2,297.1	.....	90,003.20	.....	230	105	.....	.....	800	1,250	6
Morrisdale No. 4 Drift,	Clearfield,	5,959.04	.....	.....	9,959.04	.....	267	19	.....	.....	80	.....	3
Morrisdale No. 5 Drift,	Clearfield,	8,833.44	.....	.....	8,833.44	.....	66	20	.....	.....	40	.....	3
Troy Nos. 4 and 5,	Clearfield,	18,099.20	.....	.....	18,099.20	.....	207	25	.....	.....	105	.....	3
Mabel,	Clearfield,	5,281.92	.....	.....	5,281.92	.....	95	15	.....	.....	40	.....	3
Totals,		374,668.02	8,795.3	3,015.0	452,295.20	38,668	210	509	2	8	3,285	2,060	54
Estate of O. P. Jones.													
Acme No. 1,	Clearfield,	102,823.88	672.0	1,083.0	104,578.88	.....	212	140	.....	.....	730	.....	12
Acme No. 2,	Clearfield,	12,171.36	2,688.0	.....	44,859.36	.....	186	100	.....	.....	250	.....	3
Totals,		144,995.24	3,360.0	1,083.0	149,438.24	.....	*199	240	.....	.....	980	.....	15
Beulah Coal Co., Ltd.													
Webster No. 4,	Clearfield,	141,122.28	515.2	411.0	142,048.48	.....	257	194	1	.....	808	200	24
J. T. & H. Todd Bros.													
Lane Nos. 1 and 2,	Clearfield,	123,724.24	.....	480.4	124,204.64	.....	186	140	.....	.....	650	.....	9
Thos. J. Lee & Co., Ltd.													
Gearhart,	Clearfield,	69,707.83	392.0	112.0	70,211.83	.....	233	84	.....	1	560	.....	7
Ophir Coal Co.													
Ophir,	Centre,	120,301.44	.....	616.0	120,917.44	.....	260	144	.....	1	600	.....	11
J. Swires & Co.													
Ashman,	Clearfield,	21,280.00	.....	.....	21,280.00	.....	238	38	.....	.....	100	.....	5
O'Brien,	Clearfield,	12,475.68	.....	.....	12,475.68	.....	214	24	.....	.....	25	.....	3
Totals,		154,057.12	.....	616.0	154,673.12	.....	*226	206	1	2	725	200	19
United Colliery Co.													
Mt. Vernon No. 6,	Clearfield,	47,495.90	1,677.7	.....	49,173.60	.....	160	166	.....	.....	.....	.....	.....
Mt. Vernon No. 7,	Clearfield,	406.56	.....	.....	406.56	.....	19	22	.....	.....	.....	.....	.....
Totals,		47,902.46	1,677.7	.....	49,580.16	.....	*89	188	.....	.....	.....	.....	.....
G. L. Whitehead & Co.													
Mt. Vernon No. 6,	Clearfield,	23,639.84	604.8	.....	24,244.64	.....	66	113	1	.....	75	300	19
Standard No. 1,	Centre,	18,910.08	.....	.....	18,910.08	.....	249	22	.....	.....	225	450	2
Standard No. 2,	Centre,	6,899.20	.....	.....	6,899.20	.....	215	12	.....	.....	116	281	1
Standard No. 3,	Centre,	6,826.40	.....	.....	6,826.40	.....	172	12	.....	.....	124	266	1
Standard No. 5,	Clearfield,	4,609.92	.....	.....	4,609.92	.....	161	10	.....	.....	95	106	1
Totals,		60,885.44	604.8	.....	61,490.24	.....	*216	169	1	.....	635	1,403	24
Thos. C. Heins & Co.													
Lenore,	Clearfield,	30,061.92	.....	.....	30,061.92	.....	252	58	.....	.....	185	.....	.....
Electric,	Centre,	53,626.72	.....	.....	53,626.72	.....	207	87	.....	1	325	.....	.....
Totals,		83,688.64	.....	.....	83,688.64	.....	*229	145	.....	1	510	.....	.....

TABLE II—Continued.

Names of Operators and Collieries.	County.	Shipments of coal in cars by rail or otherwise	Quantity used at colliery for steam and heat tons.	Sold to local trade and used by employes tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Morris Liveright													
Fairmount No. 1	Clearfield	21,408 80			21,408.80		212	38			104		4
Fairmount No. 2	Clearfield	29,546.72			29,546.72		333	59		1	170		2
Phœnix	Centre	17,258.08			17,258.08		289	31			94		6
Totals		68,213.60			68,213.60		*247	128		1	368		19
John G. Platt.													
Green	Clearfield	10,252 48	28.0	44.8	10,325.28		122	25			60		3
Platt Nos. 2 and 3	Clearfield	19 352 60	84.0	112.0	19,549.60		225	25			90		4
Quemahoning No. 2	Clearfield	41,819 72	112.0	67.2	41,989.92		242	56			240		6
Totals		71,416.80	224.0	224.0	71,864.80		*235	105			390		13
Williams, Morris & Co.													
Glenwood Nos. 1 and 2	Clearfield	65,675.45		112.0	65,787.45		273	61			244		5
John Nuttal & Co.													
Osceola No. 1	Clearfield	33,908.60		179.2	34,087.20		81	104		1	18		
Penn. Pennsylvania & Kerr, Inc.													
Osceola No. 1	Clearfield	26,807 24		2.2	26,809.44		48	123			80	10	11
Osceola No. 2	Clearfield	1,291 72			1,291.72		7	50			10	2	4
Totals		28,191.96		2.2	28,101.16		*28	173			90	12	15
Thos. Barnes.													
Barnes Nos. 1 and 3	Clearfield	55,246.35		67.2	55,313.55		243	90		1	300		13
David Atherton													
Colonial No. 1	Clearfield	53,760.00	56.0	112.0	53,928.00		227	68			300		9

Cambria Coal Co.													
Leland No. 1,	Clearfield,	73,295.84	660.0		73,955.84		186	121					10
Leland No. 2,	Clearfield,	13,927.20			13,927.20		245	11					2
Leland No. 3,	Clearfield,	21,216.16			21,216.16		184	48			147		4
Totals,		108,439.20	660.0		169,099.20		*205	183			147		16
Coaldale Mining Co., James Fleming, Contractor.													
Imperial No. 1,	Clearfield,	34,160.00			34,160.00		216	57			210		10
Kentuck,	Clearfield,	11,648.00		72.8	11,720.80		160	15			125		2
Totals,		45,808.00		72.8	45,880.80		*185	72			335		12
W. T. Rainey & Co.													
Beisena No. 3,	Clearfield,	42,956.48	336.0	162.4	43,454.88	7,287	272	87		1	680	75	12
M. & F. Craig.													
Sterling Nos. 2 and 3,	Clearfield,	43,232.00			43,232.00		180	60			120		4
Adams & Co.													
Jefferson,	Clearfield,	42,737.96			42,737.96		234	45			125		5
Ghem Coal Co.													
Ghem,	Centre,	40,470.87		91.2	40,562.07		222	52		1	148		5
M. Burns.													
Raybold No. 2,	Clearfield,	21,555.52			21,555.52		225	34			142		2
Bessemer No. 1,	Clearfield,	8,494.08			8,494.08		198	11			58		2
Totals,		30,049.60			30,049.60		*211	45			200		4
R. Hughes & Son.													
Leader Nos. 1 and 2,	Clearfield,	26,880.00		268.8	27,148.80		249	40			120		4
John Barnes & Son.													
Lancashire No. 1,	Clearfield,	26,540.64			26,540.64		249	49		1	200		5
Thos. Blythe.													
Alexandria,	Clearfield,	25,875.40	22.4	119.8	26,017.60		240	52					3
Moshannon Coal Mining Co.													
Moshannon,	Clearfield,	24,192.00	196.0		24,388.00		206	71			400		3
Harbison Walker Co.													
Parks,	Clearfield,				21,227.58		312	33					2
P. Gallagher.													
Mapleton,	Clearfield,	21,775.61		134.4	21,910.01		234	25			120		6
Johnson & Hess Co.													
Hobson,	Clearfield,	20,664.00			20,664.00		223	37			75		3

TABLE II—Continued.

Names of Operators and Collieries.	County.	Shipments of coal in tons by rail or otherwise.	Quantity used at colliery for steam and heat, tons.	Sold to local trade and used by employes, tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Penn Iron Co.													
Reading,	Clearfield,	17,841.60			17,841.60		258	27			157	90	3
R. A. Jackson Coal Co.													
Black Diamond,	Clearfield,	15,941.60			15,941.60		228	27					2
Shade,	Clearfield,	1,743.31			1,743.31		33	11			50		1
Totals,		17,684.91			17,684.91		*157	38			50		3
J. R. Brown & Co.													
Osceola No. 3,	Centre,	15,330.56	201.6	84.0	15,616.16		175	40			101		5
J. Mountz.													
Whiteside No. 1,	Clearfield,	14,123.20			14,123.20		249	49			260		2
Christoff Bros. & Co.													
Staffordshire,	Clearfield,	13,567.68		33.6	13,601.28		220	27			125	50	2
Wm. A. Gould.													
Midvale Nos. 1 and 2,	Clearfield,	13,266.40		44.8	13,311.20		173	28			84		4
Rearkirk Bros. & Co.													
Loraine,	Clearfield,	13,136.48			13,136.48		145	29			60	100	3
L. Milton Wilson Co.													
Bear Run,	Centre,	10,279.36			10,279.36		166	29			60		2
Townsend & Milsom.													
Shaft No. 2,	Clearfield,	11,260.48			11,260.48		143	23			25		2
H. Schwinn.													
Schwinn,	Clearfield,	7,037.06	1,451.5	648.4	9,136.96		269	12		1	80		3

Geo. Lobb & Co.													
Friendship No. 1,	Clearfield	1,361.92		112.0	1,473.92		99	23			2		1
Henrietta No. 1,	Clearfield	4,368.00		5.6	4,373.60		14	27			3		2
Goss run No. 1,	Clearfield	1,124.48		39.2	1,163.68		40	9					1
Totals,		6,854.40		156.8	7,011.20		*31	59			5		4
James Gatehouse.													
Banion,	Clearfield	6,406.59	336.0		6,742.59		238	13			100	100	1
W. T. Jackson.													
Grampian No. 1,	Clearfield	4,789.12			4,789.12		101	43					2
Irish Bros. & Co.													
Red Jacket,	Clearfield	2,771.08		147.5	2,918.58		45	19			50		1
Coplin & Stevens.													
McCartney,	Clearfield	907.20		44.8	952.00		84	12			30		2
John F. Stott.													
Highland,	Clearfield	179.20			179.20		4	9			1		3
H. McD. Loraine.													
Meadowbrook,	Clearfield	1,344.00		336.0	1,680.00		103	9			1		1
Wm. Casker.													
Birds Eye,	Clearfield	10,557.14	253.1	291.2	11,101.44		216	23			12		2
Thos. Wood.													
Victor No. 2,	Clearfield	15,996.96			15,996.96		231	21			40		2
Blair Bros.													
Orient,	Centre	35,020.32			35,020.32		270	38			300		8

*Average.

Recapitulation.

Names of Operators and Collieries.	County.	Shipments of coal in tons by rail or otherwise.	Quantity used at colliery for steam and heat—tons.	Sold to local trade and used by employés—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Berwind-White Coal Mining Co.	Clearfield, Jefferson, Centre,	2,032,463.12	30,425.6	3,729.6	2,066,588.62	.....	248	2,268	7	11	12,103	15,799	537
Morrisdale Coal Mining Co.	Clearfield,	374,668.02	8,795.3	3,015.0	452,295.26	38,668	210	509	2	8	3,285	2,000	54
Estate of O. P. Jones	Clearfield,	144,597.24	3,360.0	1,088.0	149,438.24	.....	199	246	.....	.....	980	.....	15
Beulah Coal Co., Ltd.	Clearfield,	141,122.28	515.2	411.0	142,048.48	.....	257	194	1	.....	808	200	24
J. T. & H. Todd Bros.	Clearfield,	123,724.24	.....	480.4	124,204.64	.....	186	140	.....	.....	650	.....	9
Thos. J. Lee & Co. Ltd.	Clearfield,	69,767.82	392.0	112.0	70,211.82	.....	266	243	.....	1	725	.....	12
Ogden Coal Co. & J. Swires Co.,	Clearfield, Centre,	154,057.12	.....	616.0	154,673.12	.....	233	84	.....	1	500	.....	7
United Collieries Co.	Clearfield,	47,302.46	1,677.7	.....	49,580.16	.....	89	188	.....	.....	.....	.....	.....
G. L. Whitehead & Co.,	Clearfield, Centre,	60,885.44	604.8	.....	61,490.24	.....	216	169	1	.....	635	1,403	24
Thos. C. Heims & Co.	Clearfield, Centre,	83,688.64	.....	.....	83,688.64	.....	229	145	.....	1	510	.....	.....
Morris Liveright.	Clearfield, Centre,	68,213.60	.....	.....	68,213.60	.....	247	128	.....	1	368	.....	19
John G. Platt	Clearfield	71,416.80	224.0	224.0	71,864.80	.....	242	105	.....	.....	390	.....	13
Williams, Morris & Co.,	Clearfield,	65,675.45	.....	112.0	65,787.45	.....	239	61	.....	.....	244	.....	7
John Nuttal & Co.	Clearfield,	33,908.10	.....	179.2	34,087.20	.....	84	104	.....	1	18	.....	.....
Peade, Pancoast & Kerr, Inc.	Clearfield	28,104.36	.....	2.2	28,104.16	.....	57	173	.....	.....	90	12	15
Thos. Barnes	Clearfield	55,246.55	.....	67.2	55,313.55	.....	243	96	.....	1	500	.....	13
David Atherton	Clearfield	53,760.00	56.0	112.0	53,928.00	.....	227	68	.....	.....	300	.....	9
Cambria Coal Co.	Clearfield	108,439.20	676.0	.....	109,099.20	.....	265	183	.....	.....	147	.....	16
Craddale Mining Co., and James Fleming, Contractor.	Clearfield,	45,808.00	.....	72.8	45,880.80	.....	185	57	.....	.....	210	.....	10
W. T. Bailey & Co.	Clearfield,	42,906.48	336.0	162.4	43,454.88	7,287	272	87	.....	1	680	75	12
M. & F. Craig.	Clearfield,	43,232.00	.....	.....	43,232.00	.....	180	60	.....	.....	120	.....	4
Adams & Co.	Clearfield,	42,737.96	.....	.....	42,737.96	.....	234	45	.....	.....	125	.....	5
Glenn Coal Co.	Centre	10,470.87	.....	91.2	10,562.07	.....	233	73	.....	1	148	.....	5
M. Barnes	Clearfield,	30,049.60	.....	.....	30,049.60	.....	211	41	.....	.....	260	.....	4
R. Hughes & Son	Clearfield	27,880.00	.....	268.8	27,148.80	.....	249	40	.....	.....	120	.....	4
John Patton & Son	Clearfield	25,240.64	.....	.....	25,240.64	.....	249	49	.....	.....	200	.....	5

Thos. Blythe,	Clearfield	25,875.40	22.4	119.8	26,017.60		240	52						3
Moshannon Coal Mining Co.	Clearfield	24,192.00	196.0		24,388.00		296	71				400		3
Harbison Walker Co.,	Clearfield				21,227.58		242	63						3
P. Gallagher,	Clearfield	21,775.61		134.4	21,910.01		234	65				120		3
Johnson & Hess Co.,	Clearfield	20,664.00			20,664.00		253	65				75		3
Penn Iron Co.,	Clearfield	17,811.60			17,811.60		278	27				157	90	3
R. A. Jackson Coal Co.,	Clearfield	17,684.91			17,684.91		177	38				70		3
J. R. Brown & Co.,	Centre	15,330.56	201.6	84.0	15,616.16		175	40				101		3
J. Mountz,	Clearfield	14,123.20			14,123.20		209	49		1	200			3
Christoff Bros. & Co.,	Clearfield	13,567.68		33.6	13,601.28		229	27			125	50		3
Wm. A. Gould	Clearfield	13,266.40		44.8	13,311.20		173	28			84			4
Rearkirk Bros. & Co.,	Clearfield	13,136.48			13,136.48		166	29			60	100		3
L. Milton Wilson,	Centre	10,279.36			10,279.36		145	21			60			3
Townsend & Musser,	Clearfield	11,260.48			11,260.48		143	33			25			3
H. Schwartz,	Clearfield	7,037.76	1,451.5	648.4	9,136.96		269	12		1	80			3
Geo. Lobb & Co.,	Clearfield	6,854.40		156.8	7,011.20		91	30			5			4
Jas. Gatehouse,	Clearfield	6,406.59	336.0		6,742.59		228	18			100	100		3
W. J. Jackson,	Clearfield	4,789.12			4,789.12		101	43						1
Irish Bros. & Co.,	Clearfield	2,771.08		147.5	2,918.58		45	19			50			1
Copelin & Stevens Co.,	Clearfield	907.20		44.8	952.00		84	12			30			2
John E. Stott,	Clearfield	179.20			179.20		4	9			1			3
H. McD. Loraine,	Clearfield	1,344.00		336.0	1,680.00		102	9			1			1
Wm. Casker,	Clearfield	10,557.44	253.1	291.2	11,101.44		216	23			12			3
Thos. Wood,	Clearfield	15,996.96			15,996.96		221	21			40			3
Blair Bros.,	Centre	35,020.32			35,020.32		270	38			300			3
Grand totals,		4,327,442.50	19,567.2	12,780.1	4,476,814.11	45,975	*245	6,140	11	29	26,357	19,829	600	

*Average.

TABLE II—Continued.

Names of Operators and Collieries.	County.	Number of Boilers.				Total horse power.	Locomotives—electric.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute.	Number electric dynamos.	Number air compressors.	Number coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.										
Berwind-White Coal Mining Co.															
Eureka No. 5,	Clearfield,	5	150	2	200	350	.....	3	115	2	1,360	1,300	.....	.....	.....
Eureka No. 7,	Clearfield,	2	60	1	100	160	.....	3	115	2	970	970	.....	.....	.....
Eureka No. 13,	Clearfield,	.....	.....	1	50	50	.....	1	40	.....	.....	.....	.....	.....	.....
Eureka No. 16,	Clearfield,	.....	.....	3	150	150	.....	1	40	2	439	436	.....	.....	.....
Eureka No. 18,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eureka No. 19,	Clearfield,	.....	.....	2	200	200	3	3	290	1	40	40	2	.....	.....
Eureka No. 21	Centre,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Eureka No. 22,	Clearfield,	.....	.....	4	300	300	4	4	280	1	20	20	2	.....	.....
Eureka No. 24	Clearfield,	.....	.....	2	125	125	.....	.....	.....	1	325	325	.....	.....	.....
Atlantic No. 1,	Clearfield,	6	180	2	200	380	4	3	340	3	4,500	4,500	2	.....	.....
Atlantic No. 2,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Eureka No. 1,	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Eureka No. 4	Jefferson,	4	160	5	430	590	.....	1	260	2	400	497	.....	.....	.....
West Eureka No. 6	Jefferson,	4	60	3	141	210	.....	2	325	1	2,348	1,174	.....	.....	.....
West Eureka No. 8	Jefferson,	.....	.....	5	700	700	.....	3	547	1	325	206	.....	1	.....
West Eureka No. 10	Jefferson,	.....	.....	3	180	180	.....	1	260	2	900	500	.....	.....	.....
West Eureka No. 11,	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Eureka No. 12	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Eureka No. 13	Jefferson,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Totals,		21	550	32	2,836	3,386	11	24	2,470	25	12,058	9,962	6	1	.....
Morrisdale Coal Mining Co.															
Morrisdale No. 1 Shaft,	Clearfield,	1	20	5	570	590	.....	8	465	2	1,100	700	.....	2	106
Morrisdale No. 2 Shaft	Clearfield,	.....	.....	3	350	350	1	4	460	1	750	600	1	1	.....
Morrisdale No. 4 Dritt,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morrisdale No. 5 Dritt,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Troy Nos. 4 and 5,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Mabel,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	1	60	35	.....	.....	.....
Totals,		1	20	8	920	940	1	12	865	4	1,910	1,335	1	3	106

| | | |

TABLE II.—Continued.

Names of Operators and Collieries.	County.	Number of Boilers.				Total horse power.	Locomotives—electric.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute.	Number electric dynamos.	Number air compressors.	Number coke ovens.
		Cylindrical	Horse power.	Tubular.	Horse power.										
John G. Platt.															
Guion	Clearfield														
Cuba Nos. 2 and 3	Clearfield														
Colorado No. 2	Clearfield														
Totals															
Williams, Morris & Co.															
Glenwood Nos. 1 and 2	Clearfield														
John Nuttal & Co.															
Decatur No. 1	Clearfield														
Peale, Peacock & Kerr, Inc.															
Decatur No. 1	Clearfield														
Decatur No. 2	Clearfield														
Totals															
Thos. Barnes.															
Baltic Nos. 1 and 2	Clearfield														
David Atherton.															
Colorado No. 3	Clearfield	1	46	1	100	146		1	40	1	240	50			
Cambria Coal Co.															
Leland No. 1	Clearfield	1	40			40		1	20	1	150	80			
Leland No. 2	Clearfield														
Leland No. 3	Clearfield														
Totals		1	40			40		1	20	1	150	80			

Coaldale Mining Co., James Fleming, Contractor.																	
Imperial No. 1,	Clearfield,																
Kentuck,	Clearfield,																
Totals,																	
W. T. Rainey & Co.																	
Belsena No. 3,	Clearfield,			1	30	30											70
M. & E. Craig.																	
Sterling Nos. 2 and 3,	Clearfield,																
Adams & Co.																	
Jefferson,	Clearfield,																
Ghem Coal Co.																	
Ghem,	Centre,																
M. Burns.																	
Rayboid No. 2,	Clearfield,																
Bessemer No. 1,	Clearfield,																
Totals,																	
R. Hughes & Son.																	
Leader Nos. 1 and 2,	Clearfield,																
John Garner & Son.																	
Lancashire No. 1,	Clearfield,																
Thos. Blythe.																	
Moshannon,	Clearfield,																
Moshannon Coal Mining Co.																	
Alexandria,	Clearfield,			1	40	40				1	150	75					
Harbison Walker Co.																	
Parks,	Clearfield,																
P. Gallagher.																	
Mapleton,	Clearfield,																
Johnson & Hess Co.																	
Hobson,	Clearfield,																
Penn Iron Co.																	
Reading,	Clearfield,																

TABLE II—Continued.

Names of Operators and Collieries.	County.	Number of Boilers.				Total horse power.	Locomotives—electric.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute.	Number electric dynamos.	Number air compressors.	Number coke ovens.
		Cylinderival.	Horse power.	Tubular.	Horse power.										
R. A. Jackson Coal Co.															
Black Diamond	Clearfield														
Shade	Clearfield														
Total															
J. R. Brown & Co.															
Osceola No. 2	Centre			1	20	20				1	180	180			
J. Mountz															
Whiteside No. 1	Clearfield														
Chestnut Bros. & Co.															
Stafordshire	Clearfield														
Wm. A. Gould															
Midvale Nos. 1 and 2	Clearfield														
Berkley Bros. & Co.															
Lorraine	Clearfield														
L. Milton Wilson Co.															
Bear Run	Centre														
Townsend & Milsom															
Shoff No. 2	Clearfield														
H. Schwing															
Schwing	Clearfield														

Geo. Lobb & Co.															
Friendship No. 1,	Clearfield,														
Henrietta No. 1,	Clearfield,														
Goss Run No. 1,	Clearfield,														
Totals,															
James Gatehouse.															
Banion,	Clearfield,			1	80	80		1	16	1	150	100			
W. T. Jackson.															
Grampian No. 1,	Clearfield,														
Irish Bros. & Co.															
Red Jacket,	Clearfield,														
Copelin & Stevens.															
McCartney,	Clearfield,														
John F. Stott.															
Highland,	Clearfield,														
H. McD. Loraine.															
Meadowbrook,	Clearfield,														
Wm. Casker.															
Birds Eye,	Clearfield,	1	30			30		1	15	1	230	120			
Thos. Wood.															
Victor No. 2,	Clearfield,														
Blair Bros.															
Orient	Centre,														

Recapitulation.

Names of Operators and Collieries.	County.	Number of Boilers.				Total horse power.	Locomotives electric.	Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute.	Number electric dynamos.	Number air compressors.	Number coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.										
Berwind-White Coal Mining Co.	Clearfield, Jefferson, Centre,	21	550	33	2,826	3,386	11	24	2 450	27	12,058	3,962	6	1	.....
Morrisdale Coal Mining Co.	Clearfield,	1	20	8	920	940	1	12	865	4	1,919	1,335	1	3	106
Estate of O. P. Jones,	Clearfield,	2	40	2	80	80	.....	2	200	6	2,700	1,800	.....	.....	.....
Beulah Coal Co., Ltd.,	Clearfield,	.....	.....	1	40	40	.....	1	60	.....	.....	.....	.....	.....	.....
J. T. & H. Todd Bros.,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thos. J. Lee & Co. Ltd.	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ogden Coal Co. & J. Swires Co.,	Clearfield, Centre,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
United Colliery Co.,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
G. L. Whitehead & Co.	Clearfield, Centre,	7	105	.....	.....	105	.....	1	.....	1	500	280	.....	.....	.....
Thos. C. Heins & Co.,	Clearfield, Centre,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Morris Liveright,	Clearfield, Centre,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
John G. Platt	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Williams, Morris & Co.,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
John Nuttal & Co.,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Peale, Peacock & Kerr, Inc.	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Thos. Barnes,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
David Atherton,	Clearfield,	1	40	1	100	140	.....	1	40	1	200	50	.....	.....	.....
Cambria Coal Co.,	Clearfield,	1	40	.....	.....	40	.....	1	20	1	150	80	.....	.....	.....
Carbon Mining Co., and James Fleming, Contractor.	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
W. T. Rainey & Co.,	Clearfield,	.....	.....	1	30	30	.....	.....	.....	.....	.....	.....	.....	.....	30
M. & F. Craig,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Adams & Co.	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Glenn Coal Co.,	Centre,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
M. Burns,	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
R. Hughes & Son	Clearfield,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

John Barnes & Son,	Clearfield,																
Thos. Blythe,	Clearfield,																
Moshannon Coal Mining Co.,	Clearfield,			1	40	40				1	150	75					
Harbison Walker Co.,	Clearfield,																
P. Gallagher,	Clearfield,																
Johnson & Hess Co.,	Clearfield,																
Penn Iron Co.,	Clearfield,																
R. A. Jackson Coal Co.,	Clearfield,																
J. R. Brown & Co.,	Centre,			1	20	20				1	180	180					
J. Mountz,	Clearfield,																
Christoff Bros. & Co.,	Clearfield,																
Wm. A. Gould,	Clearfield,																
Rearkirk Bros. & Co.,	Clearfield,																
L. Milton Wilson,	Centre,																
Townsend & Milsom,	Clearfield,																
H. Schwinn,	Clearfield,																
Geo. Lobb & Co.,	Clearfield,																
Jas. Gatehouse,	Clearfield,			1	80	80		1	16	1	150	160					
W. J. Jackson,	Clearfield,																
Irish Bros. & Co.,	Clearfield,																
Copelin & Stevens Co.,	Clearfield,																
John F. Stott,	Clearfield,																
H. McD. Loraine,	Clearfield,																
Wm. Casker,	Clearfield,	1	30			30		1	15	1	230	120					
Thos. Wood,	Clearfield,																
Blair Bros.,	Centre,																
Grand totals,		34	825	49	4,146	4,931	12	44	3,666	42	18,028	13,982	7	4	156		

TABLE III—Showing the number of each class of employes at each colliery in the Eighth Bituminous District, during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.								
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	Grand total inside and outside.
Berwind-White Coal Mining Co.																	
Eureka No. 5,	1	.....	124	6	7	2	1	141	.....	1	4	.....	.....	2	4	11	152
Eureka No. 7,	1	.....	142	.....	6	3	2	154	.....	1	4	.....	.....	1	5	12	166
Eureka No. 13,	1	.....	15	.....	2	.....	1	19	.....	.....	.....	.....	.....	1	.....	1	20
Eureka No. 16,	1	.....	120	8	6	2	4	141	.....	2	2	.....	.....	1	5	10	151
Eureka No. 18,	1	.....	69	6	4	1	4	85	.....	1	.....	.....	.....	1	3	5	90
Eureka No. 19,	1	.....	144	.....	.....	1	6	152	.....	2	2	.....	.....	1	4	9	161
Eureka No. 21,	1	.....	49	4	3	.....	2	59	.....	.....	.....	.....	.....	1	2	3	62
Eureka No. 22,	1	.....	170	10	.....	2	8	191	.....	3	2	.....	.....	2	6	13	204
Eureka No. 24,	1	.....	34	3	3	.....	.....	41	.....	.....	1	.....	.....	1	1	3	44
Atlantic No. 1,	1	.....	174	3	.....	2	6	186	.....	2	3	.....	.....	2	5	12	198
Atlantic No. 2,	1	.....	36	3	2	.....	4	46	.....	.....	.....	.....	.....	1	2	3	49
West Eureka No. 1,	1	.....	45	.....	3	3	1	53	.....	.....	.....	.....	.....	2	.....	2	54
West Eureka No. 4,	1	.....	214	.....	12	3	7	237	.....	3	.....	1	.....	.....	4	13	250
West Eureka No. 5,	1	.....	55	.....	4	.....	3	63	.....	1	1	1	.....	.....	3	10	73
West Eureka No. 6,	1	1	70	5	4	1	15	57	.....	2	7	1	.....	.....	3	13	70
West Eureka No. 10,	1	.....	225	.....	12	3	5	248	.....	2	4	1	.....	.....	7	14	262
West Eureka No. 11,	1	.....	117	.....	8	3	4	133	.....	1	.....	1	.....	.....	6	8	141
West Eureka No. 12,	1	.....	33	.....	1	.....	.....	35	.....	.....	.....	.....	.....	.....	2	2	37
West Eureka No. 13,	1	.....	70	1	5	.....	.....	77	.....	1	.....	.....	.....	.....	6	7	84
Total,	19	1	1,866	49	82	27	73	2,117	.....	23	30	5	.....	16	68	151	2,268

Morrisdale Coal Co.																
Morrisdale No. 1 Shaft,	3	.....	237	.....	27	11	18	296	1	7	9	2	.....	4	6	29	325
Morrisdale No. 2 Shaft,	1	.....	79	.....	8	2	5	95	1	3	4	.....	.....	.....	2	10	105
Morrisdale No. 4,	1	.....	16	.....	1	.....	.....	18	.....	.....	.....	.....	.....	.....	1	1	19
Morrisdale No. 5,	1	.....	16	.....	.....	1	1	19	.....	.....	.....	.....	.....	.....	1	1	20
Troy Nos. 4 and 5,	1	.....	20	.....	2	.....	.....	23	.....	.....	.....	.....	.....	.....	2	2	25
Mabel,	1	.....	10	.....	1	.....	1	13	.....	1	.....	.....	.....	.....	1	2	15
Total,	8	.....	378	.....	39	14	25	464	2	11	13	2	.....	4	13	45	509
Estate of O. P. Jones.																	
Acme No. 1,	1	.....	120	.....	8	1	1	131	1	1	2	2	.....	2	1	9	140
Acme No. 2,	1	.....	80	.....	6	1	1	89	1	1	2	2	.....	2	3	11	100
Total,	2	.....	200	.....	14	2	2	220	2	2	4	4	.....	4	4	20	240
Beuhlah Coal Co., Ltd.																	
Webster No. 4,	1	.....	161	.....	8	5	4	179	.....	3	1	.....	.....	2	9	15	194
J. T. & H. Todd Co.																	
Lane No. 1,	1	.....	116	2	5	.....	.....	124	.....	1	.....	.....	.....	2	4	7	131
Lane No. 2,	.....	.....	8	.....	1	.....	.....	9	.....	.....	.....	.....	.....	.....	.....	.....	9
Total,	1	.....	124	2	6	.....	.....	133	.....	1	.....	.....	.....	2	4	7	140
United Colliery Co.																	
Mt. Vernon No. 6,	1	.....	137	.....	8	4	2	152	.....	1	4	2	.....	2	5	14	166
Mt. Vernon No. 7,	1	.....	13	.....	1	.....	4	19	.....	.....	.....	.....	.....	1	2	3	22
Total,	2	.....	150	.....	9	4	6	171	.....	1	4	2	.....	3	7	17	188
G. L. Whitehead & Co.																	
Mt. Vernon No. 6,	1	.....	88	1	5	4	4	103	.....	2	2	.....	.....	2	4	10	113
Standard No. 1,	1	.....	18	.....	1	.....	.....	20	.....	.....	.....	.....	.....	2	.....	2	22
Standard No. 2,	1	.....	8	.....	1	.....	.....	10	.....	.....	.....	.....	.....	2	.....	2	12
Standard No. 3,	1	.....	8	.....	1	.....	.....	10	.....	.....	.....	.....	.....	2	.....	2	12
Standard No. 5,	1	.....	6	.....	1	.....	.....	8	.....	.....	.....	.....	.....	2	.....	2	10
Total,	5	.....	128	1	9	4	4	151	.....	2	2	.....	.....	10	4	18	169
Ophir Coal Co.																	
Ophir,	1	.....	130	.....	6	.....	1	138	1	1	.....	1	.....	1	2	6	144
T. Swires & Co.																	
Ashman,	1	.....	30	.....	3	.....	.....	34	1	1	.....	.....	.....	1	1	4	38
O'Brian,	1	.....	20	.....	2	.....	.....	23	.....	.....	.....	.....	.....	1	.....	1	24
Total,	2	.....	50	.....	5	.....	.....	57	1	1	.....	.....	.....	2	1	5	62
Thos. J. Lee & Co. Limited.																	
Gearhart,	1	.....	70	.....	4	3	2	80	.....	1	.....	1	.....	.....	2	4	84

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Thos. J. Lee & Co.																	
Lee,																	
Thos. C. Heins & Co.																	
Electric,	1		75		6			82		1		2			2	5	87
Lenora,	1		51		5			57		1						1	58
Total,	2		126		11			139		2		2			2	6	145
D. Atherton.																	
Colorado No. 3,	1		50		5	2	3	61	1	2	1	1		1	1	7	68
Morris Liveright.																	
Fairmount No. 1,	1		31	2	2			36							2	2	38
Fairmount No. 2,	1		52		4			57		1					1	2	59
Phœnix,	1		28		2			31									31
Total,	3		111	2	8			121		1					3	4	128
John G. Platt.																	
Colorado No. 2,	1		48	1	3	1		54							1	1	55
Cuba,	1		20	1	2			24							1	1	25
Guion,	1		19	1	2	1		24							1	1	25
Total,	3		87	3	7	2		102							3	3	105

Williams, Morris & Co.																			
Glenwood Nos. 1 and 2.	1	.....	53	1	3	.....	.....	58	1	1	.....	.....	.....	.....	.....	1	3	61
John Nuttal & Co.																			
Decatur No. 1.	1	.....	85	.....	7	.....	2	95	.....	2	.....	1	.....	.....	1	5	9	104
Peale, Peacock & Kerr, Inc.																			
Decatur No. 1.	1	.....	103	.....	8	1	3	116	.....	1	.....	.....	.....	.....	2	4	7	123
Decatur No. 2.	.....	.....	44	.....	3	.....	.....	47	.....	.....	.....	.....	.....	.....	.....	3	3	50
Total.	1	.....	147	.....	11	1	3	163	.....	1	.....	.....	.....	.....	2	7	10	173
Thos. Barnes.																			
Baltic Nos. 1 and 3.	1	.....	65	2	7	1	.....	76	1	1	.....	.....	.....	.....	1	11	14	90
Cambria Coal Mining Co																			
Leland No. 1.	1	.....	100	4	5	3	2	115	1	1	1	1	.....	.....	2	.....	6	121
Leland No. 2.	1	.....	10	1	1	.....	1	14	.....	.....	.....	.....	.....	.....	.....	.....	.....	14
Leland No. 3.	1	.....	40	2	2	1	1	47	.....	.....	.....	.....	.....	.....	1	.....	1	48
Total.	3	.....	150	7	8	4	1	176	1	1	1	1	.....	.....	3	.....	7	183
Coaldale Coal Co.																			
Imperial No. 1.	1	.....	45	1	5	.....	.....	52	.....	1	.....	1	.....	.....	1	2	5	57
Jas. Fleming.																			
Kentuck.	1	.....	10	1	2	.....	.....	14	.....	.....	.....	.....	.....	.....	.....	1	1	15
W. T. Rainey & Co.																			
Belsena No. 3.	1	.....	51	3	3	3	1	62	1	1	1	.....	20	2	.....	.....	25	87
M. & F. Craig.																			
Sterling Nos. 2 and 3.	1	.....	54	.....	3	.....	.....	58	.....	.....	.....	.....	.....	.....	.....	2	2	60
Adams & Co.																			
Jefferson.	1	.....	39	.....	2	.....	.....	42	.....	.....	.....	.....	.....	.....	1	2	3	45
Ghem Coal Co.																			
Ghem.	1	.....	44	.....	3	1	1	50	.....	1	.....	.....	.....	.....	1	.....	2	52
M. Burns.																			
Raybold No. 2.	1	.....	26	.....	2	.....	.....	29	.....	1	.....	.....	.....	.....	2	2	5	34
Bessemer No. 1.	1	.....	8	.....	.....	.....	.....	9	.....	.....	.....	.....	.....	.....	2	.....	2	11
Total.	2	.....	34	.....	2	.....	.....	38	.....	1	.....	.....	.....	.....	4	2	7	45
R. Hughes & Son.																			
Leader Nos. 1 and 2.	1	.....	35	.....	3	.....	.....	39	.....	.....	.....	.....	.....	.....	1	.....	1	40
John Barnes & Sons																			
Lancashire Nos. 1 and 2.	1	.....	37	.....	4	.....	1	43	.....	1	.....	1	.....	.....	2	2	6	49
Thos. Blythe																			
Alexandra.	1	.....	45	.....	3	.....	.....	49	.....	1	.....	1	.....	.....	1	.....	3	52

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Moshannon Coal Mining Co.																	
Moshannon,	1	.....	60	.....	3	1	1	66	.....	1	1	.....	.....	2	1	5	71
Harbison Walker Co.																	
Parks,	1	.....	30	.....	2	.....	.....	33	.....	.....	.....	.....	.....	.....	.....	.....	33
P. Gallagher.																	
Mapleton,	1	.....	19	.....	2	.....	.....	22	.....	.....	.....	.....	.....	1	2	3	25
Johnson & Hess.																	
Hobson,	1	.....	30	.....	3	.....	1	35	.....	.....	.....	.....	.....	.....	.....	.....	35
Penn Iron Co.																	
Reading,	1	.....	22	.....	2	.....	2	27	.....	.....	.....	.....	.....	.....	.....	.....	27
R. A. Jackson.																	
Black Diamond,	1	.....	25	.....	1	.....	.....	27	.....	.....	.....	.....	.....	.....	.....	.....	27
Shade,	.....	.....	10	.....	1	.....	.....	11	.....	.....	.....	.....	.....	.....	.....	.....	11
Total,	1	.....	35	.....	2	.....	.....	38	.....	.....	.....	.....	.....	.....	.....	.....	38
J. R. Brown.																	
Osceola No. 3,	1	.....	32	1	3	1	.....	38	.....	.....	1	1	.....	.....	.....	2	40
J. Mountz.																	
Whiteside No. 1,	1	.....	40	2	1	.....	.....	44	1	.....	1	.....	.....	1	2	5	49

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Recapitulation.

Names of Collieries.	Occupations of Persons Employed Inside.										Occupations of Persons Employed Outside.									Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Anthracite Coal Mining Co.	1	1	1,946	49	82	27	73	2,117	12	33	89	12		16	68	151	2,268
Forestville Coal Co.	1		177		36	14	25	484	3	11	13	3		4	13	45	529
Estate of D. P. Jones.	1		294		14	2	4	320	1	2	4	1		4	4	16	240
Scotch Coal Co., Limited.	1		161		6	4	6	179		3	1			2	1	7	186
D. P. & H. Todd.	1		121		6	4	1	133		1						1	134
United Collieries Co.	1		156	6	6	4	6	171	1	3	4	1		1	1	11	182
E. L. Whitehead & Co.	1		135		6	4		151	1	2	2			2		7	158
Dyberry Coal Co.	1		126	1	6	3	1	138	1	1						2	140
E. Scrimgs & Co.	1		70		4	3	2	80		1						1	81
E. J. Lee & Co., Limited.	1	1	178		11	2	8	201	1	1	1	1		1	1	6	207
Thos. C. Hays & Co.	1		80	3	5	3	3	95	1	2	1				1	5	100
D. Atherton.	1		111	3	4	3	1	123	1	1	1					3	126
Alfred Lewellyn.	1		97	3	4	3	1	109	1	1	1					3	112
John G. Platt.	1		146	3	4	3	4	161	1	1	1					3	164
Colliers, M. Cox & Co.	1		95	3	4	3	3	109	1	1	1					3	112
John Nuttall & Co.	1		145	3	4	3	3	159	1	1	1			1		4	163
Sam'l Pancoast & Kerr, Receiv.	1		146	3	4	3	4	161	1	1	1			1		4	165
Thos. Rapple.	1		146	3	4	3	4	161	1	1	1			1		4	165
Lehigh Coal Mining Co.	1		146	3	4	3	4	161	1	1	1			1		4	165
Cambria Coal Co.	1		146	3	4	3	4	161	1	1	1			1		4	165
Beddale Coal Co.	1		146	3	4	3	4	161	1	1	1			1		4	165
J. R. Fleming.	1		146	3	4	3	4	161	1	1	1			1		4	165
W. P. Rainey & Co.	1		146	3	4	3	4	161	1	1	1			1		4	165
M. & P. Craig.	1		146	3	4	3	4	161	1	1	1			1		4	165
Adams & Co.	1		146	3	4	3	4	161	1	1	1			1		4	165
Sheen Coal Co.	1		146	3	4	3	4	161	1	1	1			1		4	165
J. Harris.	1		146	3	4	3	4	161	1	1	1			1		4	165
C. Hughes & Co.	1		146	3	4	3	4	161	1	1	1			1		4	165

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TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Berwind-White Coal Mining Co.													
Eureka No. 5,	22	19	23	23	26	21	17	24	18	16	23	23	255
Eureka No. 7,	24	18	23	25	25	22	19	23	23	22	23	18	262
Eureka No. 13,	23	22	23	23	24	22	16	23	23	22	23	21	228
Eureka No. 16,	23	20	23	23	24	20	19	24	24	22	23	21	268
Eureka No. 18,	14	14	24	24	26	23	22	23	23	18	23	21	256
Eureka No. 19,	24	19	23	23	26	21	18	23	23	23	24	21	264
Eureka No. 21,	18	15	23	23	23	19	14	24	24	17	24	24	245
Eureka No. 22,	23	20	23	23	24	25	19	24	24	24	24	21	277
Eureka No. 24,	15	13	23	23	26	22	19	24	24	24	24	21	270
Atlantic No. 1,	23	24	26	24	26	25	22	24	24	24	24	21	277
Atlantic No. 2,	19	18	24	23	25	23	21	24	24	24	24	21	276
West Eureka No. 1,		6	26	24	12	12	14	24	24	24	24	21	236
West Eureka No. 4,	10	17	23	21	17	12	12	24	24	24	24	21	209
West Eureka No. 5,	23	17	23	23	16	13	14	24	24	24	24	21	241
West Eureka No. 6,	23	24	23	21	12	18	12	24	24	24	24	21	194
West Eureka No. 10,	23	18	23	23	23	25	22	24	24	24	24	21	226
West Eureka No. 11,	23	17	23	23	24	20	17	24	24	24	24	21	276
West Eureka No. 12,	23	16	23	23	26	25	21	24	24	24	24	21	295
West Eureka No. 13,	23	17	23	23	25	23	20	24	24	24	24	21	257
													288
													276
Total,													*248

Morrisdale Coal Co.													
Morrisdale No. 1 Shaft,	22	20	26	15	22	25	22	22	22	22	19	10	247
Morrisdale No. 2 Shaft,	24	29	22	15	24	22	15	23	16	7	18	24	230
Morrisdale No. 4,	24	26	8	14	23	22	15	24	14	3	17	23	207
Morrisdale No. 5,	.....	.....	.....	.....	.....	.....	.....	.....	13	21	20	12	66
Troy Nos. 4 and 5,	6	7	14	12	21	21	22	21	21	19	21	22	207
Mabel,	16	16	12	8	11	8	.....	.....	.....	.....	7	17	95
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*210
Estate of O. P. Jones.													
Acme No. 1,	24	11	24	22	19	12	20	13	21	17	12	17	212
Acme No. 2,	23	13	7	.....	.....	24	22	24	21	20	15	17	186
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*199
Beuhlah Coal Co., Ltd.													
Webster No. 4,	26	21	23	20	25	25	23	26	24	22	12	10	257
J. T. & H. Todd Co.													
Lane No. 1,	22	18	16	25	17	12	17	18	19	16	16	17	213
Lane No. 2,	22	14	16	25	17	12	15	15	15	8	.....	.....	159
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*186
United Colliery Co.													
Mt. Vernon No. 6,	27	25	26	22	17	23	20	.....	.....	.....	.....	.....	160
Mt. Vernon No. 7,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	19	19
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*89
G. L. Whitehead & Co.													
Mt. Vernon No. 6,	.....	.....	.....	.....	.....	.....	.....	.....	6	15	23	22	66
Standard No. 1,	21	22	12	12	25	24	21	24	22	24	22	20	249
Standard No. 2,	18	21	11	11	25	23	10	19	18	19	21	19	215
Standard No. 3,	16	18	10	11	25	3	.....	6	19	21	22	22	173
Standard No. 5,	.....	.....	11	18	20	10	14	21	20	11	12	24	161
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*216
Ophir Coal Co.													
Ophir,	25	21	23	24	20	20	18	24	23	17	21	24	260
T. Swires & Co.													
Ashman,	20	18	22	21	20	24	21	21	18	18	16	19	238
O'Brian,	17	16	18	17	19	18	20	16	14	21	21	17	214
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*226
Thos. J. Lee & Co. Limited.													
Gearhart,	25	18	24	21	18	13	22	21	18	15	16	22	233

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	Augusst.	September.	October.	November.	December.	Totals.
Thos. J. Lee & Co.													
Lee,													
Thos. C. Helms & Co.													
Electric,	17	19	18	19	13	16	11	19	13	17	22	23	207
Lenora,	24	20	26	22	23	18	17	19	20	20	22	21	252
													*229
D. Atherton													
Colorado No. 3,	20	22	24	20	24	10	1	15	24	23	24	20	227
Morris Liveright.													
Fairmount No. 1,	22	16	22	16	16	14	15	16	19	19	21	17	213
Fairmount No. 2,	17	17	18	25	20	22	17	8	18	22	26	23	233
Phoenix	24	24	25	23	25	25	25	20	24	25	24	25	289
													*247
John G. Platt.													
Colorado No. 2,	9	22	24	22	19	18	33	24	18	22	20	21	242
Cuba,	13	18	19	17	19	18	20	19	18	17	20	21	235
Gulon	3	7	10	14	7	2	10	13	14	15	14	13	122
													*235

Williams, Morris & Co.													
Glenwood Nos. 1 and 2,	21	20	26	23	25	25	24	22	19	22	22	21	273
John Nuttal & Co.													
Decatur No. 1,	23	20	16	9	13								81
Peale, Peacock & Kerr, Inc.													
Decatur No. 1,										8	19	21	48
Decatur No. 2,												7	7
													*55
Thos. Barnes.													
Baltic Nos. 1 and 3,	21	17	21	18	22	19	16	19	20	23	26	21	243
Cambria Coal Mining Co.													
Leland No. 1,	21	19	23	15	10	18	5	13	15	15	15	17	186
Leland No. 2,	25	21	30	21	16	17	18	19	14	22	22	20	245
Leland No. 3,		20	26	22	10	12	14	15	9	12	22	22	184
													*265
Coaldale Coal Co.													
Imperial No. 1,	19	14	18	18	17	18	16	23	14	15	18	20	210
Jas. Fleming.													
Kentuck,	20	15	21	15	10	5	2	10	20	22	20		160
W. T. Rainey & Co.													
Belsena No. 3,	24	23	26	24	18	20	14	24	24	26	24	25	272
M. & F. Craig.													
Sterling Nos. 2 and 3,	12	14	18	15	20	20	10	12	14	16	14	15	180
Adams & Co.													
Jefferson,	18	15	18	19	17	20	22	21	20	23	20	21	234
Ghem Coal Co.													
Ghem,	21	20	21	19	16	11	15	21	15	16	23	24	222
M. Burns.													
Raybold No. 2,	15	11	22	20	22	24	19	18	8	22	24	20	225
Bessemer No. 1,	13	9	14	19	16	23	15	18	20	15	18	18	198
													*211
R. Hughes & Son.													
Leader Nos. 1 and 2,	24	19	22	21	24	16	23	24	17	17	20	22	249
John Barnes & Sons.													
Lancashire Nos. 1 and 2,	26	19	26	15	23	21	17	22	19	24	23	20	249
Thos. Blythe.													
Alexandra	23	26	20	21	22	18	13	13	19	23	26	22	240

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals
Meshannon Coal Mining Co.													
Meshannon.	18	21	20	22	19	17	19	14	16	11	14	15	206
Harbison Walker Co.													
Parks.	26	24	27	25	27	26	26	27	26	26	26	26	312
P. Gallagher.													
Magdeton.	25	17	25	24	19	18	17	10	11	22	24	22	234
Johnson & Hess.													
Hobson.	26	20	12	26	21	10	22	22	19	18	16	17	253
Penn Iron Co.													
Reading.	25	16	26	24	22	25	25	26	20	10	19	20	278
R. A. Jackson.													
Black Diamond.	20	21	19	12	16	13	18	24	23	25	22	24	238
Shade.	20	11	10	5	4	7	8	10	.....	.....	.....	.....	75
Total.	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*157
J. R. Brown.													
Osceola No. 2.	.....	.....	.....	26	25	26	18	13	28	11	22	22	175
J. Mountz.													
Waterside No. 1.	16	13	22	21	22	19	8	18	18	15	16	21	209

Christoff Bros. & Co.													
Staffordshire,	22	14	21	23	19	18	19	16	21	16	15	16	220
Thomas Wood.													
Victor No. 2,	18	17	18	17	18	19	20	16	17	19	14	16	231
Wm. Gould.													
Midvale Nos. 1 and 2,	18	11	17	15	13	15	11	17	13	13	15	15	173
Rearkirk Bros. & Co.													
Loraine,	14	9	17	16	13	14	10	10	10	6	12	14	145
L. Milton Wilson.													
Bear Run,	.....	.....	17	2	20	12	12	17	20	14	14	20	166
Townsend & Milsom.													
Shoff No. 2,	.....	.....	.....	.....	18	20	21	16	19	15	14	20	143
H. Schwinn.													
Schwinn,	25	18	24	26	22	20	23	24	20	24	20	23	269
Geo. Lobb & Co.													
Friendship No. 1,	.....	.....	.....	.....	.....	.....	.....	.....	2	12	8	17	39
Henrietta,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	1	13	14
Goss Run,	11	5	10	14	.....	.....	.....	.....	.....	.....	.....	.....	40
Total, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	*93
James Gatehouse.													
Banion,	24	18	24	25	25	21	16	20	22	8	20	15	238
W. A. Jackson.													
Grampian No. 1,	.....	.....	.....	.....	.....	.....	.....	5	25	26	22	23	101
Irish Bros. & Co.													
Red Jacket,	.....	.....	.....	.....	.....	.....	.....	.....	.....	15	18	12	45
Copelin & Stevens.													
McCartney,	.....	.....	.....	.....	.....	.....	.....	.....	12	24	25	23	84
J. F. Stott.													
Highland,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	4	4
H. McD. Loraine.													
Meadowbrook,	.....	.....	.....	.....	.....	.....	.....	14	25	23	24	17	103
Wm. Casker.													
Birds Eye,	18	11	16	17	23	20	12	13	21	21	20	24	216
Blair Bros.													
Orient,	21	20	26	24	23	23	20	24	23	23	22	21	270

*Average.

TABLE IV—List of fatal accidents that occurred in and about the mines of the Eighth Bituminous District, for the year ending December 31, 1899.

Date of accident	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 12	Edward Rose, ...	Miner, ...	40	M.	1	6	West Eureka No. 5, ...	Jefferson,.....	Crushed on a bunting by a descending cage in a pump shaft, while ascending a vertical ladder, after having been notified by the foreman to travel in the manway; pump shaft being used as a hoist shaft for coal for boilers.
16.	Arthur George, ...	Miner, ...	19	S.	....	....	Morrisdale No. 1 Shaft,...	Clearfield.....	Body crushed by a fall of roof slate on roadway near face of his room at cross cut where a stream of water was falling, which had loosened the roof, unknown to him.
17.	Wm. Reyden, ...	Miner, ...	33	M.	1	2	Eureka No. 19, ...	Clearfield.....	Instantly killed by a fall of roof; he was withdrawing heading pillars and was preparing to set a prop under the stone that fell, on the gob or broken side of the pillar; the nearest prop set was eight feet from the coal face, and while in a leaning position, making a small hole in the floor to receive the prop, the roof fell on him.
Feb. 21	Gurne G. Bloom, ...	Miner, ...	18	S.	....	....	Webster No. 4, ...	Clearfield,.....	Skull fractured. He had left his working face and gone back along his room on the gob or waste side of his room 100 feet back from face, to mine a car of coal on a projection, while waiting for the foreman to give him some instructions concerning a clay vein at the face of his room, and without attempting to sound or otherwise examine the roof over him, he commenced mining the coal, and in 30 minutes a piece of roof fell on him. He survived the accident only 15 minutes.

Mar. 7,	Patrick McHugh, ...	Miner, ...	60	M.	1	7	Mtt. Vernon No. 6	Clearfield,.....	Instantly killed; skull fractured by a fall of coal while undermining it. He had a sprag set within 3 feet, but there was a loose end on the opposite of the sprag, the coal being very soft and loose, it broke of its own weight over the sprag, part of it striking him on the head.
April 27,	John Anderson, ...	Driver, ...	25	S.	....		West Eureka No. 4, ...	Jefferson.....	Spine injured, hips dislocated and internal injury. He was attempting to cross the main rope haulage way with a team of mules, from the manway to a cross heading, when the rope was in motion, and a train of thirteen loaded mine cars were coming out of the mine, and liable to pass where he was standing any moment. The mules would not cross, and he was pulling them by the bridle, when the trip struck him and rolled him ninety feet, from which injury he died during the day.
May 9,	Robert Spooner, ...	Miner, ...	25	S.	....		Morrisdale No. 1 Shaft,...	Clearfield,.....	Body crushed, and instantly killed by mine cars on haulage way. He was riding out of a section of the mine between two loaded cars on the same coupling as another party, after being requested by the driver to stay off them; having his face toward the other party that was riding with him, and his hips on the outside of the line of the car, and when the cars reached a point where there was a projection on the pillar side, it caught his hips and pulled him off and rolled him under the cars.
May 13,	George Royley, ...	Miner, ...	30	S.	....		Eureka No. 21, ...	Centre,.....	Body and hips crushed by a fall of roof, while working in heading pillars. He was mining a cut of coal, and the nearest prop was seven feet from the face; he had undercut the coal three and one-half feet, and into a smooth slip that went up through the coal and into the roof, when without warning the coal and roof fell, the latter catching his body and hips; causing his death the following day.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Aug. 15,	John Roberts, ...	Miner, ...	18	S.	....	....	Eureka No. 13, ...	Clearfield,.....	He was instantly killed by a fall of roof. He and his father and two other persons were withdrawing heading pillars, at a point where a slip was seen to cross the heading in the roof at right angles to the roadway, but which after proved to have turned parallel with the road only six inches over the coal, and the weight coming on from the gob behind, and while they were mining, the stone fell out of roof in A shape and six feet high, crushing his skull and body.
17,	Andrew Grage, ...	Miner, ...	34	M.	1	....	Eureka No. 13, ...	Clearfield,.....	Body crushed beneath a fall of roof, causing instant death. The mine was idle the day of the accident, and they were withdrawing heading pillars, and he and another person attempted to take out a small pillar of coal that had fractures in the roof on four sides, and after taking out the last of the mining, without setting any timber, the whole place caved in; the body not being recovered for six hours.

Dec.	16.	David W. Thomas, ...	Miner, ...	50	M.	1	5	Atlantic No. 1, ...	Clearfield.....	Spine dislocated and other internal injury, causing instant death. He and his son were engaged in taking down a piece of roof that was rather low, at a point thirty feet from the face of their room and directly opposite a cross cut; the stone had a slip on the pillar side and was oval, extending over the gob side of road; they tried to sound the roof, but the stone did not give any jar, so they considered it safe, and while they were busy at work on it, a larger stone than they had any idea of, fell on both of them; the father's body saving the life of the son.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Eighth Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan 10.	Mike Machinsick, ...	Miner, ...	34	M.	Eureka No. 13.	Clearfield,.....	Severely burned about head, face and hands. He was pouring powder from a can, with an open light on his head, the floating dust of the powder raised up to lamp flame and ignited the contents of the can.
13.	Edward Price, ...	Miner, ...	63	M.	Eureka No. 16.	Clearfield,.....	Right shoulder dislocated and simple fracture of first finger on left hand. A piece of coal fell on him while undercutting the coal.
16.	Ralph Gonce, ...	Miner, ...	14	S	Morrisdale No. 1 Shaft,...	Clearfield,....	Simple fracture of limb, and head bruised. He was injured on room roadway by fall of roof at the time Arthur George was fatally injured.
Feb. ...	.....	Miner, ...	....	....	Morrisdale No. 1 Shaft,...	Clearfield,.....	Simple fracture of right lower limb; struck by rolling coal while tamping a shot, having taken out the sprags from under the coal.
Mar 20.	Ric'd Jones, ...	Outside laborer, ...	45	M.	Atlantic No. 1, ...	Clearfield,.....	Foot cut and bruised. He was running a car of coal on the scales, and neglected to set brake on next following car, which car of its own gravity followed the one he was running, and h s foot was caught between bumpers.
21.	David Steel, ...	Miner, ...	24	S.	Atlantic No. 1, ...	Clearfield,.....	Back, head and face cut and bruised. He was struck by fall of bony and roof slate that had two loose ends, and which he neglected to s cure with timber.
29.	John Stonebraker, ...	Miner, ...	15	S.	Morrisdale No. 1 Shaft,...	Clearfield,.....	Simple fracture of lower limbs. He was undercutting coal, when a piece fell on him.
April 6	John Tuzko, ...	Miner, ...	45	M.	Electric, ...	Centre,.....	Head and breast bruised and knee sprained. He was sounding a loose piece of roof, by jar of pick, when the slate fell on him.

	11,	Geo. Barns,	Miner,	46	M.	Eureka No. 21,	Centre,	Head and body slightly bruised. He was loading a mine car, and standing under a loose piece of roof, and when cautioned said he did not care; stone fell on his head and shoulders.
	12,	Ephraim Harp,	Miner,	55	M.	Mountz,	Clearfield,	Simple fracture of left lower limb and body bruised. A piece of roof slate fell out between face of heading and props, striking him.
May	6,	Isaac George,	Driver,	19	S.	Decatur No. 1,	Clearfield,	Ribs broken and body squeezed. The mule had stopped with loaded cars at a narrow place on a curve, and while he was crawling past, mule started and cars squeezed him.
	25,	James Cherry,	Miner,	44	S.	Ophir,	Centre,	Simple fracture of left limb below knee, struck by a fall of slate, which he thought too small to injure him, but knew it to be loose.
June	1,	Edward Mansell,	Driver,	22	S.	Morrisdale No. 1 Shaft,	Clearfield,	Broken collar bone; caught between mine car and side of heading.
Sept.	7,	Obediah Fulton,	Miner,	17	S.	Morrisdale No. 1 Shaft,	Clearfield,	Simple fracture of lower limb. He was working under some loose bony coal, when it fell on him.
	27,	William Reese,	Miner,	37	S.	Gearhart,	Clearfield,	Simple fracture of upper limb. He was undercutting coal with a loose end and no sprag set, when a piece of the coal fell on him.
Oct.	7,	Antonio Galiskie,	Miner,	28	M.	Eureka No. 18,	Clearfield,	Collar bone broken. He was undercutting coal without setting any sprags, when a piece fell on his shoulders.
	10,	John Jannso,	Miner,	30	S.	Morrisdale No. 1 Shaft,	Clearfield,	Simple fracture of lower limbs, went immediately back into his place after firing a shot, when a piece of roof fell on him.
	24,	John Shirt,	Miner,	67	M.	Baltic No. 1,	Clearfield,	Arm broken. He was riding out of the mine in an empty car, and was leaning over the side with one arm, when the car left the track and squeezed it between car and side of roadway.
	24,	Peter Linn,	Miner,	46	M.	West Eureka No. 10,	Jefferson,	Will loose one eye and was cut and burned about head. He had just commenced tamping a shot, when from the friction of the iron rammer in the hole the powder ignited, causing premature blast, striking his head and face.
	24,	James Linn,	Miner,	18	S.	West Eureka No. 10,	Jefferson,	Face and hands severely burned by accident of same blast as above.
Nov.	2,	George Marshall,	Miner boy,	14	S.	Morrisdale No. 1 Shaft,	Clearfield,	Slight concussion of brain. His head was caught between an empty car and side of heading, while trying to switch a car in his room.

TABLE V.—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Nov. 6.	Michael Bellboss, ...	Miner, ...	34	M.	Morrisdale No. 1 Shaft,...	Clearfield,.....	Simple fracture of lower limb and head bruised. He was scraping slack from a mining machine, when a slab of coal fell from the face of room on him.
8.	Reece Williams, ...	Driver, ...	25	M.	West Eureka No. 4, ...	Jefferson,.....	Ankle bone bruised and squeezed. He was riding between two mine cars when the bumpers came together and caught his foot.
14.	John Bostrom, ...	Miner, ...	36	M.	West Eureka No. 1.....	Jefferson,.....	Hip bruised and rib fractured. A piece of roof fell on him while he was lying on his side undermining a cut of coal.
15.	Fred. Miller, ...	Miner boy, ...	14	S.	Ghem, ...	Centre,.....	Simple fracture of lower limb above knee. He was at work with his father in drawing a room pillar, and the crush of roof caused a piece of bony coal to be liberated while he was standing between car and pillar which struck his thigh.
18.	Sandy Ross, ...	Miner, ...	32	M.	Fairmount No. 2.	Clearfield,.....	Body severely bruised. He was struck by a fall of roof in his working place, having neglected to set sufficient props after being notified to do so by the foreman.
21.	Patrick Dugan, ...	Miner, ...	16	S.	Atlantic No. 1, ...	Clearfield,.....	Left side of head cut and bruised. He was undercutting a piece of coal that had been made loose by a shot, when it fell on him.
28.	J. Sinneslack, ...	Miner, ...	30	M.	Belsena No. 2.	Clearfield,.....	Rib fractured. He was struck by a fall of bony coal, while lying on his side undercutting coal.
Dec. 26.	Walter Schwinn, ...	Outside driver, ...	17	S.	Schwinns, ...	Clearfield,.....	Simple fracture of lower limb. He was struck by the swing of a steel wire rope on an incline plane outside.

Ninth Bituminous District.

ALLEGHENY, FAYETTE AND WESTMORELAND COUNTIES.

Connellsville, Pa., March 14, 1900.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: I have the honor to submit herewith my annual report as Inspector of Mines of the Ninth Bituminous district for the year ending December 31, 1899.

The quantity of coal mined was 7,897,490 tons, or 1,271,762 tons more than was mined in 1898. The quantity of coke was 2,535,141 tons, an increase of 6,964 tons, as compared with 1898. Twenty-three fatal accidents occurred during the year, while there were 28 in the previous year, but there were a greater number of non-fatalities than in 1898. There were 16 wives made widows and 47 children made orphans by these casualties. A brief description of these accidents is given in the list of accidents and how they might have been avoided. The number of mining machines is increasing, but I am very sorry to say that the methods of extracting all the coal with them is not improving yet. A brief description of mines, and the statistical table will be found in their proper places in this report.

All of which is respectfully submitted.

BERNARD CALLAGHAN,
Inspector.

Summary of Statistics for 1899.

Number of mines in the district,	66
Number of mines in operation during 1899,	64
Number of tons of coal produced,	7,897,490
Number of tons of coal shipped,	3,957,697
Number of tons of coal used for steam at mines,	119,425
Number of tons of coal sold to employes and others,	63,577
Number of coke ovens,	5,235
Number of tons of coke produced,	2,535,141
Number of persons employed inside the mines,	6,116
Number of persons employed outside the mines,	2,508
Number of fatal accidents,	23
Number of tons of coal produced per fatal accident,	343,368
Number of non-fatal accidents,	43

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Number of tons of coal produced per non-fatal accident,.	183,662
Number of persons employed per fatal accident,	365
Number of persons employed per non-fatal accident,	192
Number of wives made widows by accidents,	12
Number of children orphaned,	47
Number of kegs of powder used,	21,056
Number of pounds dynamite used,	13,193
Number of cylindrical boilers in use,	77
Number of tubular boilers in use,	110
Number of steam locomotives,	16
Number of air locomotives,	1
Number of electric locomotives.	10
Number of new mines opened,	1

Production of Coal by Each Company in Tons During the year 1899.

H. C. Frick Coke Company,	2,050,326
McClure Coke Company,	927,950
W. J. Rainey,	512,828
Laughlin & Co., Limited,	96,732
B. F. Keister & Co.,	48,540
J. R. Stauffer & Co.,	21,376
J. W. Overholt & Co.,	16,651
Pennsville Coke Company,	55,330
Jackson Mine Company,	30,405
Pittsburgh Coal Company,	3,368,796
James W. Shields,	94,404
W. H. Browns' Sons,	91,532
Amyville Yough Gas Coal Company,	56,225
Marietta & Stillwagon,	89,211
Elizabeth Coal Mining Company,	37,678
H. D. O'Neil & Co.,	23,704
Belle Bridge Coal Company,	14,160
James W. Ellsworth & Co.,	236,542
D. H. Lynch,	2,500
Scottdale Iron and Steel Co.,	16,574
Lake Shore Gas Coal Company,	54,464
Frank Rocks & Co.,	10,850
Wiley & Stauffer Company,	14,757
Second Pool Coal Company,	25,952
Total,	7,897,490

The total production was made up as follows:

	Tons.
Shipped by railroad or water to market,	3,957,697
Sold at the mines for local use, and employes,	63,577
Consumed to generate steam (estimated),	119,425
Manufactured into coke,	3,756,791
Total,	7,897,490

TABLE A—Showing the Production of Coal, the number of Persons Employed by each Company during the Year 1899, and the Average Number of Tons Produced per Employe.

Names of Companies.	Number of tons produced.	Number of persons employed.
H. C. Frick Coke Co.,	2,050,326	1,991
McClure Coke Co.,	927,950	1,200
W. J. Rainey,	512,828	776
Laughlin & Co., Limited,	96,752	103
B. F. Keister & Co.,	48,540	38
J. R. Stauffer & Co.,	21,376	27
J. W. Overholt & Co.,	16,654	16
Pennsville Coke Co.,	55,330	76
Jackson Mine Co.,	30,405	44
Pittsburgh Coal Co.,	3,368,796	3,179
James W. Shields,	94,404	131
W. H. Brown Sons,	91,532	304
Amyville Yough Gas Coal Co.,	56,225	60
Marietta & Stillwagon,	89,211	25
Elizabeth Coal Mining Co., Limited,	37,678	90
H. D. O'Neil & Co.,	23,704	52
Belle Bridge Coal Co.,	14,160	101
James W. Ellsworth & Co.,	236,542	226
D. H. Lynch,	2,500	8
Scottdale Iron & Steel Co., Limited,	16,574	17
Lake Shore Gas Coal Co.,	54,464	62
Frank Rocks & Co.,	10,850	8
Stauffer & Wiley,	14,757	13
Second Pool Coal Co.,	25,952	66
Total,	7,897,490	8,624

TABLE B—Number of Fatal Accidents and Tons of Coal Produced per Life Lost.

Names of Companies.	Number of fatal accidents.	Number of tons of coal produced per life lost.
H. C. Frick Co.,	3	683,442
McClure Coke Co.,		
W. J. Rainey,	1	512,828
Laughlin & Co., Limited,		
B. F. Keister & Co.,		
J. R. Stouffer & Co.,		
J. W. Overholt & Co.,		
Pennsville Coke Co.,		
Jackson Mine Co.,		
Pittsburgh Coal Co.,	14	240,629
James W. Shields,		
W. H. Brown Sons,	1	91,532
Amyville Yough Gas Coal Co.,		
Marietta & Stillwagon,		
Elizabeth Coal Mining Co.,		
H. D. O'Neil & Co.,		
Belle Bridge Coal Co.,		
James W. Ellsworth & Co.,	3	78,848
D. H. Lynch,		
Scottdale Iron and Steel Co., Limited,		
Lake Shore Gas Coal Co.,		
Frank Rocks & Co.,		
Wiley & Stouffer,		
Second Pool Coal Co.,	1	25,952
Total and average,	23	343,382

TABLE C—Showing the Number of Fatal and Non-fatal Accidents, and the Number of Tons of Coal Produced per Accident.

Names of Companies.	Number of accidents.	Number of tons of coal produced per accident.
H. C. Frick Coke Co.,	5	410,665
McClure Coke Co.,	1	927,950
W. J. Rainey,	2	276,414
Laughlin & Co., Limited,		
R. F. Keister & Co.,		
J. R. Stoufrer & Co.,		
J. W. Overholt & Co.,		
Pennsville Coke Co.,		
Jackson Mine Co.,		
Pittsburgh Coal Co.,	49	68,751
James W. Shields,		
W. H. Brown Sons,	2	45,766
Amyville Yough Gas Coal Co.,		
Marietta & Stillwagon,	1	89,211
Elizabeth Coal Mining Co.,		
H. D. O'Neil & Co.,		
Belle Bridge Coal Co.,		
James W. Ellsworth & Co.,	5	47,309
D. H. Lynch,		
Scottdale Iron and Steel Co., Limited,		
Lake Shore Gas Coal Co.,		
Frank Rocks & Co.,		
Wiley & Stouffer,		
Second Pool Coal Co.,	1	25,952
Total,	66	119,053

TABLE D—Classification of Accidents.

Classification of Accidents.	Killed or fatally injured.	Injured.	Total.
Falls of coal and roof,	4	2	6
Explosions of gas,	13		13
Explosions of blasts,	1	1	2
Cars inside,	2	10	12
Falling down shafts,	2		2
Careless use of powder,		6	6
Slate,	10	17	27
Coal,	2	5	7
Miscellaneous inside,		1	1
Miscellaneous outside,		1	1
Total,	23	43	66

TABLE E—Occupations of Persons Killed and Injured.

Occupations.	Killed or fatally injured.	Injured.	Total.
Miners,	20	34	54
Laborers,	[illegible]	[illegible]	[illegible]
Drivers and helpers,	1	6	[illegible]
Outside laborers,	[illegible]	[illegible]	[illegible]
Mine bosses,	[illegible]	1	1
Total,	23	43	66

TABLE F—Nationalities of Persons Killed or Injured.

	English.	Scotch.	Irish.	Poles.	Slavs.	Austrians.	Americans.	Hungarians.	Italians.	Germans.	Total.
Killed,	1	1	1	1	5	1	6	3	2	2	23
Injured,	3	1	1	2	7	1	11	4	9	4	43
Total,	4	2	2	3	12	2	17	7	11	6	66

Name of Mine, Method of Haulage and Ventilation, Drift, Slope or Shaft, Pick or Machine.

Name of Mine.	Haulage.	Fan or Furnace.	Drift, Slope or Shaft.	Pick or Machine.	Type of Machine.
Alverton No. 1,	Rope and mules.	Fan,	Slope and drift,	Pick.	
Alverton No. 2,	Mules,	Furnace,	Drift,	Pick.	
Adelaide,	Rope,	Fan,	Slope and shaft,	Pick.	
Amyville,	Mules,	Furnace,	Drift,	Pick.	
Browns No. 2,	Rope,	Furnace,	Drift,	Machine and pick,	Electric.
Browns No. 1,	Rope,	Fan,	Drift,	Machine and pick,	Electric.
Banning,	Rope and motor,	Fan,	Drift,	Machine,	Compressed air.
Belle Bridge,	Rope,	Furnace,	Drift,	Pick.	
B. & O.,	Rope,	Fan,	Slope,	Pick.	
Buckeye,	Rope,	Fan,	Drift,	Pick.	
Bessemer Nos. 1 and 2,	Rope and mules	Fan,	Drift and slope,	Pick.	
Coal Brook,	Rope and mules,	Fan,	Drift and slope,	Pick.	
Cornell,	Mules,	Furnace,	Drift,	Machine and pick,	Electric.
Davidson Shaft,	Rope,	Fan,	Shaft,	Pick.	
Dexter,	Mules,	Natural,	Drift,	Pick.	
Darr,	Rope,	Fan,	Drift,	Machine and pick,	Compressed air.
Bravo,	Mules,	Furnace,	Drift,	Machine and pick,	Electric.
Diamond,	Mules,	Furnace,	Drift,	Pick.	
Emma,	Mules,	Furnace,	Drift,	Pick.	
Enterprise,	Mules,	Furnace,	Drift,	Pick.	
Eureka,	Rope,	Fans,	Drift,	Machine and pick,	Electric.
Euclid,	Electric motor.	Fan,	Shaft,	Machine,	Electric.
Franklin,	Mules,	Furnace,	Drift,	Pick.	
Fort Hill,	Rope and mules.	Fan,	Drift,	Pick.	
Forrest Hill,	Electric motors.	Fan,	Drift,	Machine and pick,	Electric.
Grace,	Rope,	Fan,	Drift,	Pick.	
Gospel,	Rope,	Furnace,	Drift,	Machine and pick,	Electric.
Henry Clay,	Rope	Fan,	Slope,	Pick.	
Home Works,	Mules	Natural,	Drift,	Pick.	
Horner & Roberts,	Rope and mules.	Furnace,	Drift,	Pick.	
Jackson,	Rope,	Natural,	Drift,	Pick.	
Lovedale,	Rope,	Furnace,	Drift,	Pick.	
Mullin,	Rope,	Fan,	Drift,	Pick.	
Morgan,	Mules,	Natural,	Drift,	Pick.	
Ocean No. 1,	Electric motor,	Fan,	Drift,	Machine and pick,	Electric.
Ocean No. 2,	Electric motor,	Fan,	Drift,	Machine and pick,	Electric.
Ocean No. 4,	Mules,	Furnace,	Drift,	Machine and pick,	Electric.
Ocean No. 5,	Mules,	Furnace,	Drift,	Pick.	
Ocean No. 6,	Mules,	Furnace,	Drift,	Pick.	
Ocean No. 7,	Rope,	Furnace,	Drift,	Pick.	
Osceola,	Rope,	Fan,	Drift,	Machine,	Electric.
Pacific,	Electric motor.	Fan,	Drift,	Pick.	
Port Royal Nos. 1 and 2,	Electric motors.	Fan,	Shaft,	Machine,	Compressed air.
Painter,	Mules and locomotive,	Fan,	Drift,	Pick.	
Pennsville,	Rope,	Fan,	Drift,	Pick	
Plumer,	Rope,	Fan,	Drift,	Pick	

Giving Name of Mine, Etc.—Continued.

Name of Mine.	Haulage.	Fan or Furnace.	Drift, Slope or Shaft.	Pick or Machine.	Type of Machine.
Rist	Rope	Fan	Drift	Pick.	
Rainbow	Rope	Fans	Drift	Pick.	
Sarah	Rope	Furnace	Drift	Pick.	
Scottdale Iron and Steel Co.	Mules	Fan	Drift	Pick.	
Sterling No. 1	Mules	Fan	Drift	Pick.	
Sterling No. 2	Mules and rope	Fan	Drift	Pick.	
Summit	Mules	Fan	Drift	Pick.	
Smithton No. 2	Rope	Fan	Shaft	Pick.	
Shaners No. 2	Endless rope	Fan	Slope	Pick.	
Tyrone	Mules	Fan	Drift	Pick.	
Tip Top	Mules	Fan	Drift	Pick.	
Union	Mules	Furnace	Drift	Pick.	
Valley	Rope	Fan	Drift	Pick.	
West Newton Shaft	Rope	Fan	Shaft	Machine and pick	Electric.
Wick Haven	Rope	Fan	Shaft	Machines and pick	Compressed air.
White	Mules	Fan	Drift	Pick.	
Yough Slope	Rope	Fan	Slope	Machines and pick	Electric.

Remarks on Mining Machines.

In giving a description of the mining machines it is well to describe them with reference to the danger to employes and the economy in their use in extracting coal. There is first the Ingersol, it is what is called the Punching machine, it can be worked where the roof is not very good, as it does not need so much room to place and move along the working face; it undercuts the coal by having the front edge or bearing-in dug 18 inches high, so that when the coal is blasted down it tumbles over and gives the slate a chance to fall along with it, and makes it better and safer for the loader. If the roof should be good enough to enable them to work wide rooms, say 30 to 40 feet, the slate in most cases would fall with the coal. This machine can go a long way in taking the ribs back also, as it is easily handled and does not require much room. The greatest objection to the machine is that it does not cut the coal as fast as the Chain machine.

The Chain machine is run by compressed air, like the Ingersoll, and also by electricity; it is large and heavy to handle, but makes a cut in four or five minutes the objectionable feature is that it requires about 12 feet of space along the face of the room to allow it to work, and the undercut or bearing in is only four inches high, and when the coal is blasted it slides down instead of tumbling over and making it easy for the loader, and allowing the slate to fall to the gob along with it, makes it hard to handle and dangerous for the loader. The system of wide rooms is a good remedy for this, as it would encourage the loader to chop off the front of the bearing-in before blasting it down, and the width of the room would allow the slate to fall with the coal; a system like this would be a great saving of accidents from the slate, as the loader would not need to go under it when loading the coal. It is argued by some mining experts that the roof would not stand if the rooms were made of such width, but I can say that this can be overcome in ordinary roof by having the room distance 50 or 70 yards, instead of 100 yards or nearly as they are driven now. In addition to this, the chain machine could extract the most of the ribs as well. The system should be, not to have the pillars more than 14 feet thick, and have them all uniform. The machine could cut the first opening 12 feet wide on the butt of the coal, then the next cut could be made by leaving two feet solid from the edge, the first cut would be 6 feet deep, and whatever width it was thought necessary, say 9 feet, the loader would have room enough to put away the slate in this cut. At the next cut the machine would cut all the coal to within about two feet on the butt, and the miner could get all of this coal, or nearly all of it, if he were allowed a little extra pay for his trouble. A pillar or rib taken out in this way could be extracted so quickly that it would be a saving of danger and pressure on the coal

would make it too soft for mining purposes. The power that runs these machines is either compressed air or electricity; compressed air is used in gaseous mines as it would be too dangerous to use electricity near where gas was generated. Compressed air is very useful in these places, as it can clear the gas out and make it safe to blast the coal. The chief objection to electricity is that while it is more economical than compressed air, the danger is in igniting the gas. Electric motors are also coming into use for hauling purposes, and are used in mines that give off small quantities of explosive gas, but are used only in main hauling roads. This is another element of danger, but I have had no accidents from it this year. The motors are in use in the thick vein and also in the thin vein; the hauling roads in the thin vein are made higher and wider, so that a large motor can be put in to haul a large trip of wagons. This is a good system of haulage, and can be used in thin veins with advantage, and although it may look more dangerous in thin veins than in thick ones, as the wires being low it would be easy to come in contact with them; while this is true, it is a danger that every one becomes aware of, and when people know it they guard against it.

Description of Mines.

Mines along the Belle Vernon Railroad.

Belle Bridge.—Has not worked very much this year. The coal combine has it now, and will very likely operate it on better methods, especially as to ventilation.

Lovedale.—Is a scattered operation, with very little to complain of if they would work more constantly.

Horner & Roberts.—Does not work very steadily, and it is not necessary for much to be said about it.

Gospel.—Is working steadily on new opening, everything looks well, and if the operators will put in a fan instead of furnace, they will have a good mine.

Mines Along the Pittsburgh and Lake Erie Railroad.

Adelaide.—As usual is in good condition both in ventilation and drainage.

Moreland Slope and Fort Hill.—Are kept up to the requirements of the mining law.

Rainbow.—This is a gaseous mine, but I could not find any at my last visit; it is well looked after.

Banning No. 2.—A new opening quite close to Rainbow mine. Two main headings have been driven about 800 feet, but is not working. They are waiting for tipple to be built.

Wick Haven.—This mine is getting quite extensive; some little improvement in the air course will put it in good condition.

Banning No. 1.—Has to be well looked after, as it gives off gas in the gobs. The coal is mined by cutting machines and open lights are used only in ribs where there is no gas in gobs.

Darr.—Is another mine that needs great attention on account of gob gas, and in the solid work also. I found very little gas anywhere in the mine at my last visit.

Port Royal No. 2.—There is trouble in this mine from bad roof and local swamps, the ventilation and drainage are good.

West Newton Shaft.—Is always found in good condition.

Ocean No. 5.—Has not worked any this year.

Forrest Hill.—Has good ventilation, and it is fortunate for it, as they have a little explosive gas in gobs when taking out ribs.

Sarah.—Main entry has been driven to daylight, which gives it a supply of good air; the drainage is also improved.

Ocean No. 2.—Ventilation and drainage are fairly good, the only trouble in this mine is that the machines work the rooms faster than the ribs are taken out, which causes some coal to be lost.

Ocean No. 4.—The only cause of complaint in this mine is that the roads are muddy, which makes them unpleasant to walk on.

Cornell.—This is now a machine mine, and although they have two furnaces, the ventilation could be a little better when several shots are fired at one time.

Dravo.—Coal cutting machines have been installed in this mine, and if they are good for cutting clay veins they will be a great help there. Ventilation could be improved.

Browns No. 1.—Worked but a short time during year. They had the mine in good condition and started with coal cutting machines, but the haulage system did not give a satisfaction, and they stopped for repairs.

Browns No. 2.—Worked 146 days, very little more than the previous year, ventilation and drainage are fairly good.

Lynch.—Does not come under the provisions of the mining law.

Mines on the B. & O. Railroad.

B. & O.—Has exhausted all the coal on the east side of the Yough river, but they are driving two entries under the river and will open rooms on the other side. The coal is 80 feet under the river with a good rock roof, which makes it safe enough to haul coal to the present tipple.

Davidson.—Very little can be said for this mine this year without repeating the report of last year, which is good in every particular. There were two fatal accidents, which in no particular could be charged to the management.

Henry Clay.—There is nothing unusual in this mine; ventilation and drainage is good, and there were no fatal accidents.

Tyrone.—The solid coal in this place is a thing of the past. No better method could be applied to extract all of the coal left in ribs and pillars than is used at this mine.

Sterling No. 1.—There is very little solid coal to work in this mine, and it will soon be exhausted, it is kept in good condition as far as circumstances will permit.

Jackson.—With the present opening looks well for ventilation and drainage. They are continuing their way to the old work, but having to go through some abandoned territory, is not very pleasant. They have been very fortunate so far.

Jimtown.—Is doing excellently after having been idle four years; everything is in fairly good condition.

Eureka.—Has three openings with rope haulage to each one, and three fans for ventilation. Electric coal cutting machines are used and everything is in good condition.

Smithton No. 2.—Is improving and still needs a little more. They have had trouble with bad roof, but signs show that they are getting through it. I cannot say that ventilation and drainage are beyond complaint.

Port Royal No. 1.—They are still continuing the same system of mining coal and leaving in the pillars, but they intend to take out the pillars when they get beyond the bad roof district; ventilation and drainage is good; it is also remarkable for not having had any fatal accidents for the year.

Euclid.—Is in good condition as far as ventilation and drainage is concerned, but like Port Royal mines they do not take out pillars. A different company has it now, which will likely change this system. Electric coal cutting machines and motor are doing good work.

Yough Slope.—Still continues the short and wide room system, although having a considerable share of bad roof and explosive gas, the mine is kept in good condition.

Amyville.—Is working nothing but entry pillars as the solid coal is all worked out, it will soon be a mine of the past, which will save a great many complaints of muddy roads.

Ocean No. 1.—Is in fairly good condition; a good deal of time has been employed on hauling roads in keeping them clean, as they needed great attention.

Shaners No. 2.—Is getting extensive and can put out a large quantity of coal with the endless rope haulage system employed. If they had a good fan at a proper place in the mine it would improve the ventilation. The drainage could be improved also.

Ocean No. 6.—Has been found in good condition at all of my visits, although if the workings are extended much farther the ventilation will hardly be up to the requirements of law.

Ocean No. 7.—Is in fairy good condition in ventilation and drainage.

Osceola.—Has made great improvement this year. A large fan for ventilation has been installed which is giving good results; they have also put in an electric coal cutting machine, which would give good results if they would change from the old hand pick mining system.

Mines on the Mount Pleasant Branch.

Rist.—Is always kept in good condition as regards ventilation and drainage; they are preparing to put in a tail rope system, which will be a great improvement.

White.—Condition of mine as well as ventilation is good.

Morgan.—Is nearly exhausted—no solid coal to work.

Summit and Eagle.—Are well kept up to the requirements of the law regarding ventilation and drainage.

Franklin.—Condition good and although it has furnace ventilation, there is no trouble in keeping a sufficient quantity of air for the workingmen.

Tip Top.—Ventilation and drainage good.

Valley.—Conditions all through are good.

Scottdale Iron and Steel Co.—Ventilation and drainage good.

Dexter.—Will soon have all of the old pillars and stumps worked out to the solid part, which will put it in better condition as to ventilation and drainage.

Painter.—Is making great improvements. A large fan has been installed which greatly improves the ventilation; they are also putting in tail rope haulage, which will be of great benefit.

Diamond.—Is in good condition both as to ventilation and drainage.

Emma No. 2.—Is working only nine persons and does not come under the provisions of the mining law, although I got the output of coal and coke.

Rising Sun.—Has very little solid coal to work and will not last very much longer; ventilation and drainage are good.

Bessemer Nos. 1 and 2.—No. 1 will soon be finished, as there is no solid coal to work. No. 2 has quite a little territory of solid coal and in good condition.

Buckeye.—The entries have been greatly extended; they have some trouble with a section of bad roof which gave off a little fire-damp, but there is none at present; they are working in all parts of the mine with locked safety lamps, which makes the atmosphere of the mine a great deal better than with open lights.

Mullin.—Although not in bad condition, could be improved in ventilation.

Mines Along the Southwest Pennsylvania Railroad.

Coal Brook.—Is in excellent condition where they are working now

the surface is thicker, and for fear of danger from explosive gas, they have introduced safety lamps exclusively. This is a proper precaution and is highly commendable.

Grace.—Maintains its usual standard for good and careful conditions. It gave a good output of coal every day and had no accidents during the year.

Pennsville.—Has good ventilation and drainage. There is a piece of very hard coal, but the rest of the mine is good.

Enterprise.—Is in good condition on one side or opening, the other opening is on the retreating course with stumps and ribs, and although the drainage is disturbed in wet weather, it will soon be finished.

Union.—Is in good condition, drainage is excellent and the ventilation, although not in large volume, is fairly good.

Alverton No. 1.—Has two openings, one has mule haulage and the other rope haulage; the work is extending, and when a larger fan is in progress instead of the small one as at present, it will give volumes of good air all through it.

Alverton No. 2.—Although this mine is supplied with furnace ventilation, it seems to give good results, as the number of men employed is not very large; drainage is also good.

Remarks on Accidents.

William W. Bollinger, track layer, was instantly killed at Adelaide on January 17, by a fall of slate. The mine foreman instructed Bollinger and Sneddon, both track layers, to take down roof coal that was unsafe and make it safe, and in doing so they had nearly all of the roof coal down, and had sounded the slate above it, so they thought it was safe, not seeing a slip that was along the one side of it; they kept working away when suddenly Bollinger said to Sneddon "run back." He did so in time, but a small piece fell on Bollinger, knocking him down and immediately another large piece fell on him, killing him instantly.

John Gray, miner, American, was fatally injured at Fort Hill on January 25, and died eleven hours after. This happened while he was taking out a pillar and having left a stump at back part, the weight began to crush it, so he went back to dig some coal from it, and in doing so, the roof coal being about two feet thick fell on him with above results. This was the third time this man had been hurt from room falls occurring through carelessness.

Daniel Lomish was fatally injured by a fall of coal in his room on January 25. He had sheared the one side of the cut coal, and then went to load his wagon. It being only four feet from the coal face, he stood between it and the face shoveling in to the wagon, when a large portion of it fell, crushing him against the wagon, injuring him so that he died in the hospital seven months after. This man knew it

was dangerous to stand before the coal, but he risked his life for a wagon of coal.

Harry Howard, miner, was killed almost instantly by falling down Wick Haven shaft on January 31. There was no one present at the time, but immediately after, James Watkins, the mine foreman, and two others went down on the other cage and upon going to the bottom and seeing a dinner pail there, surmised that some one was under the cage they went down on, but not seeing any one he called up the shaft to the engineer if there were any one on the cage; he looked and saw a man lying on the empty wagon on the cage and told him. He was not dead but still conscious, but could not tell how he fell down the shaft. The only explanation I can give is that when he went to the pit head in the morning the engineman was lowering and raising the cages for the purpose of working off the exhausted steam out of the cylinders and Howard seeing the cage going down, attempted to step on it, when it left him and he fell after it, as I think that if he had fallen all the way to the bottom, a distance of 80 feet, he would have been instantly killed, as it was he lived until the same evening.

Samuel McCracken was fatally injured at Browns No. 2 mine on March 4. After the rib was all taken back and his last wagon loaded, he commenced knocking out the posts that were under the slate, and instead of standing on the outside he went under, and had only the first one knocked out when the slate fell on him, injuring him so that he died three hours after.

John Balla was almost instantly killed at Lovedale mine March 16, by a fall of slate which was dangerous in appearance, but notwithstanding the seeming danger, he lay down under it to undermine the coal, when it fell on him with the above result.

John Johnson was fatally injured in Forrest Hill mine on April 18, by a fall of coal and slate. He was warned to be careful, and he said he would, but a small piece fell on him breaking the knee-cap which necessitated amputation, but he refused to have it done, so blood poison set in and ended his life. He was an old miner, 63 years of age.

Gabriel Sarbo, miner, was fatally burned by explosive gas on May 1st, and died on the 9th. He passed the danger signal and told his partner to open the compressed air valve to blow the gas out, and in doing so he forced it on his open light with above result.

Martin Denia, Slav, was fatally injured in Darr mine on May 10 by a fall of coal in his room. This happened in a machine room, but it was at the far end and a piece of coal was left which required to be taken out by hand, and Deni commenced to undermine it. He was aware of its condition, but risked too much. He died in the hospital thirteen days after the accident.

John Holiska, Hungarian miner, was fatally injured by a fall of

slate in Banning mine June 10. This man had only been in this country 5 weeks, and had worked only 3 weeks in the mine along with another man he was acquainted with, and in their anxiety to load coal, neglected to provide for their safety, and worked under slate that should have been either taken down or posted.

Genarro Forinogalo, Italian miner, was instantly killed by a fall of slate in Wick Haven mine June 12. He had worked in this mine 4 years and thought he knew when slate should fall, so he kept on taking down coal until a large piece fell on him as described.

Fredrick Gras was instantly killed by falling down West Newton shaft on the morning of July 1st. There was no one to see how this happened.

Morris Weeller was instantly killed by fall of slate in Forest Hill mine, July 12. This accident occurred through putting posts under the slate when he knew it was dangerous to work under. This man was working in the mine only two days, but he had worked in other mines in the vicinity, and had good knowledge of the dangerous slate, but he lost his life from neglect.

George Satormay, Slav miner, was instantly killed in Banning mine, July 24, by fall of slate. This happened through his not putting a post under it.

His partner told him not to work under it, but as there was very little more coal to dig he thought it would stay up until he got it away, so he kept digging under it until it fell on him with above results.

John Kles, American, 16 years old, was burned in Wick Haven mine on August 18, by explosive gas and died the same evening. This happened while he was going into the entry with his first trip and passing No. 3 room on 16 entry, the gas was forced on his light causing it to explode, with above result. The strange part of this accident was that a young man named Charles James was sitting on front wagon along with Kles when the gas ignited, and he was not touched by the flame. It was known that No. 3 room had gas from the face reaching back to within 20 feet of the entry, and although it was fenced off, there should not have been any person allowed to pass without safety lamp, if this had been done the accident would not have happened.

Mack Shultz, Polish miner was instantly killed in Davidson shaft on the evening of Sept. 23. After his days work was over, he and his partner were walking out to the shaft, and instead of going by the manway they went by the haulage, and meeting the empty trip did not get off in time and 26 wagons ran over him, with above result. His partner old him to get off on the same side of the entry as he did, but he did not heed the warning.

John Yominsky, miner, was fatally injured in Euclid mine, Oct. 16 by a fall of slate. This happened through his not thinking of danger because the piece was so small. It did not seem to injure him very

badly, but he went to the hospital and was there only two weeks when he went to work again, he was home only two weeks when he lost his mind, and was taken to the hospital again and died the next day.

Anthony Bansberg, American miner, age 17 years, was instantly killed in Davidson shaft on October 23. This accident happened by loosening a stump of coal with the intention of making a fall. His father and himself had their break-row set, and intended to draw out some posts after they would weaken the back stump, but the moment the boy did this, the whole roof fell. The father being near the break row of posts just got out, but the son was buried to such an extent that it took from 3.30 until 10.40 P. M. to get him out.

John Boodish, Slav miner, was instantly killed by a fall of slate Nov. 4, at Forrest Hill mine. He tried to take down the slate, and not being able to do so fast enough, he commenced to shovel the coal from under it to load his wagon, when it fell upon him.

Michael Murphy, Irish miner, was fatally injured on November 4th, at Painter & Cornell mine. This happened through his going into the room to see if he could work in it, and being hard of hearing, the roof coal commenced to fall, and in running outwards the largest piece fell on him knocking him against a post putting one eye out and injuring his skull so that he died in the hospital the second day after the accident.

John M. Larkin was instantly killed in Smithton No. 2 mine Nov. 29 by a fall of roof. This happened by taking a cut of coal off the main entry to make room for a parting. The room was bad and was posted with cross-pieces for a considerable distance. Larkin fired a shot in the coal which loosened the roof and knocked out two cross-pieces. The mine foreman was there and ordered him to put up a temporary one, and that he should also put up one a short distance from it, and while they were so engaged, the whole roof fell suddenly, burying Larkin so deep that it took two hours to get him out. The mine foreman narrowly escaped.

Lackko Welcowick, Slav miner, was fatally injured by a premature blast in Wick Haven No. 1 butt, No. 5 room, on Dec. 19. He was putting a cartridge of powder in the drill hole when it seemed to stick before it reached the far end, and he kept forcing it back with the tamping bar until it made a spark and which set off the powder, killing him almost instantly.

Steve Syke, Hungarian miner was instantly killed in Darr mine Dec. 22. He was going home and instead of walking on the manway, walked on the haulage road, and hearing the trip coming down, he stepped aside at the landing and stood up against the corner of pillars, between empty and full roads, when seven empty wagons broke loose from the trip and went off the track at the latches and ran against him, killing him instantly.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Ninth Bituminous District, 1899.

Names of Collieries.	County	Name of Operator.	Name of General Superintendent.	P. O. Address.
Rainbow,	Fayette,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Wick Haven,	Fayette,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Banning,	Fayette,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Darr,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
West Newton Shaft,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Ocean No. 1,	Allegheny,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Ocean No. 3,	Allegheny,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Ocean No. 2,	Allegheny,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Ocean No. 4,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Ocean, No. 6,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Ocean, No. 5,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Castle,	Allegheny,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Cornell,	Allegheny,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Shaners No. 2,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Yough Slope,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Euclid,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Port Royal No. 1,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Port Royal No. 2,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Smithton No. 2,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Eureka,	Westmoreland,	Pittsburgh Coal Co.,	Geo. W. Schluederberg,	Pittsburgh.
Adelaide,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Davidson Shaft,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Henry Clay,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Morgan,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Plumer,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Rist,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Sterling No. 1,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Sterling,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Summit,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Tip Top,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Valley,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
White,	Fayette,	H. C. Frick Coke Co.,	O. W. Kennedy,	Scottdale.
Coal Brook,	Fayette,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Pander,	Fayette,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Diamond,	Fayette,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Bessemer,	Westmoreland,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Buckeye,	Westmoreland,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Mullin,	Westmoreland,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Alverton No. 1,	Westmoreland,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Alverton No. 2,	Westmoreland,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Enterprise,	Westmoreland,	McClure Coke Co.,	O. W. Kennedy,	Scottdale.
Fort Hill,	Fayette,	W. J. Rainey,	T. J. Mitchell,	Connellsville.
Grace,	Fayette,	W. J. Rainey,	T. J. Mitchell,	Connellsville.
Union,	Fayette,	W. J. Rainey,	T. J. Mitchell,	Connellsville.
Browns No. 1,	Allegheny,	Brown Sons,	S. S. Brown,	Pittsburgh.
Browns No. 2,	Allegheny,	Brown Sons,	S. S. Brown,	Pittsburgh.

Dravo,	Allegheny,	Lake Shore Gas Coal Co.,	C. H. Weisser,	Robbins.
Osceola,	Allegheny,	James W. Shields,	James W. Shields,	Emblem.
Jackson,	Fayette,	Jackson Mine Co.,	M. M. Cochran,	Dawson.
Dexter,	Fayette,	J. A. Stouffer & Co.,	J. R. Stouffer,	Scottdale.
Forest Hill,	Allegheny,	James W. Ellsworth & Co.,	James W. Ellsworth,	Cleveland, O.
Belle Bridge,	Allegheny,	Belle Bridge Coal Co.		
Lovedale,	Allegheny,	Second Pool Coal Co.		
Horner & Roberts,	Allegheny,	Elizabeth Mining Co.		
Gospel,	Allegheny,	H. D. O'Neil,	H. D. O'Neil,	Elizabeth.
Pennsville,	Fayette,	J. D. Sherrick & Co.		
Scottdale Iron and Steel Co.,	Fayette,	Scottdale Iron and Steel Co.		
Emma,	Fayette,	J. W. Overholt & Co.		
Franklin,	Fayette,	B. F. Keister & Co.,	A. B. Keister,	Summit Mines.
Rocks,	Fayette,	Frank Rocks & Co.'		
Lynch,	Allegheny,	D. H. Lynch.		
Tyrone,	Fayette,	Laughlin & Co., Limited.		
B. & O.,	Fayette,	Marietta & Stillwagon,	Rock, Marietta,	Connellsville.
Amyville,	Westmoreland,	Yough Gas Coal Co.		
Wiley & Stauffer Co.,	Fayette.			

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	P. O. Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	man.
Rainbow	A. W. Osborne	West Newton	John Rees	Dennis Wordly	G. W. Smith.
Wick Haven	A. W. Osborne	West Newton	John Rees	Robert McKenny.	
Banning	A. W. Osborne	West Newton	John Rees	George Burns	William Hall.
Darr	A. W. Osborne	West Newton	John Rees	Charles Watson.	
West Newton Shaft	A. W. Osborne	West Newton	W. T. Allison	Robert Hall	W. T. Allison.
Ocean No. 5	A. W. Osborne	West Newton	W. T. Allison.		
Ocean No. 4	A. W. Osborne	West Newton	W. T. Allison	John Keck.	
Ocean No. 2	A. W. Osborne	West Newton	W. T. Allison	Thomas Whiteman.	Thomas Whiteman.
Ocean No. 1	J. B. Stone	Scott Haven		Frank Ridley.	
Ocean No. 6	J. B. Stone	Scott Haven		Edward Bell.	
Ocean No. 7	J. B. Stone	Scott Haven		William Barker.	
Pacific	A. W. Osborne	West Newton	W. T. Allison.		
Cornell	A. W. Osborne	West Newton	W. T. Allison	John Fraser	William Cornell.
Shamers No. 2	J. B. Stone	Scott Haven		William Goldsboro.	
Yough Slope	Wm. McCune	West Newton		Charles K. McCaffrey	Chas. K. McCaffrey.
Euclid	Wm. McCune	West Newton		Michael Roy.	
Port Royal No. 1	Wm. McCune	West Newton	William Goodfellow	William Goodfellow	William Goodfellow.
Port Royal No. 2	Wm. McCune	West Newton	William Goodfellow	William Goodfellow	William Goodfellow.
Smithton No. 2	Wm. McCune	West Newton		John Clark.	
Eureka	Wm. McCune	West Newton		Thomas Parkins	W. B. Sager.
Adelaide	James A. Childs	Adelaide		Thomas Harris	George Harbaugh.
Davidson Shaft	William H. Hugas	Connellsville		John Stevenson	John P. McCabe.
Henry Clay	William C. Mullan	Broad Ford		John Keck	John J. Crossland.
Morgan	William C. Mullan	Broad Ford		F. A. Cochran	John Leighty.
Plumer	William H. Hugas	Connellsville		John Yocum	John P. McCabe.
Rist	William C. Mullan	Broad Ford		Chas. Wingenroth	John Leighty.
Sterling No. 1	James A. Childs	Adelaide		D. P. Brown	William Ridenour.
Sterling	J. M. White	Scottdale		I. F. Picard	F. H. Addis.
Summit	William C. Mullan	Broad Ford		J. F. Anderson	Henry McGarrity.
Tip Top	James Lynch	Scottdale		James Wardlow	Mick Shimsheck
Valley	James Lynch	Scottdale		James Jackson	Hayes Liston.
White	William C. Mullan	Broad Ford		Robert Pollock	John Fitzmorris.
Coal Brook	R. M. Cook	Moyer		John Nolan	John McGarrity.
Painter	J. H. Culler	Hegg		P. P. Glenn	John Wolinski.
Diamond	J. H. Culler	Hegg		John Boyle	Thomas Gueff
Bessemer	James Devlin	Mount Pleasant		J. A. Trimbath	Miles Latimer.
Buckeye	James Dumphy	Steuffer		W. J. Morgan	G. W. Swift.
Mullin	James Dumphy	Stouffer		Edwin Williams	Andrew Ashtey.
Alverton No. 1	R. E. Loughrey	Alverton		Adam Whitehead	Chas. Beckner.
Alverton No. 2	R. E. Loughrey	Alverton		Andrew Neish	William Crevella.
Enterprise	R. E. Loughrey	Alverton		John N. King	James Leasure.
Fort Hill	J. B. Henderson	Vanderbilt		William Shean	James Beatty.
Grace	Thomas Johns	Moyer		B. S. Rayger	John Keffer.
Union	William Duncan	Alverton		William Duncan	Frank Miller.
Browns No. 1	James A. Dewar	Boston		Luke Crevy	James A. Dewar.
Browns No. 2	James A. Dewar	Boston		Alex. Cochran	James A. Dewar.

Bravo,	C. H. Weisser,	Robbins,		Alexander Patrick.	
Osceola,	H. D. Jones,	Emblem,		Thomas Purtell,	H. D. Jones.
Jackson,	Henry I. Cochran,	Dawson,		George Moore,	Henry I. Cochran.
Dexter,	S. R. Fairchild,	Scottdale,		S. R. Fairchild,	S. R. Fairchild.
Forrest Hill,	Robert Watson,	Sutersville,		Robert Watson,	
Belle Bridge,	W. H. Fillaborn,	Belle Bridge,		John Jiles,	W. H. Fillabom.
Loveddale,	R. H. Rhodes,	Elizabeth,		Robert McElroy.	
Horner & Roberts,	R. H. Cowan,	Elizabeth,		Archie Cowan.	
Gospel,	J. D. O'Neil,	Elizabeth,		James Adamson.	
Pennsville,	J. D. Sherrick,	Pennsville,		William Kooser.	
Scottdale Iron and Steel Co.,	Robert Skemp,	Scottdale,		Henry Suttle.	
Emma,	J. W. Overholt,	Scottdale,			
Franklin,	B. F. Keister,	Summit Mines,		William Muir,	J. R. Robbins.
Rocks,	Frank Rocks,	Connellsville,		Frank Rocks,	John Rocks.
Lynch,	D. H. Lynch,	McKeesport,			
Tyrone,	Clifton Wharton,	Broad Ford,		Thomas R. Kane,	Leige Douglass.
B. & O.,	Clair Stillwagon,	Connellsville,		George W. Bell.	
Amyville,	R. B. McIntosh,	Pittsburgh,		David Jones,	David Jones.
Wiley & Stauffer Co.,					

TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Ninth Bituminous District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Pittsburgh Coal Co.													
West Newton Shaft,	Westmoreland...	233,723	5,040	.....	238,763	.....	272	224	1	.....	940	.....	13
Banning,	Fayette,.....	288,586	8,000	1,000	297,586	.....	283	293	3	3	1,360	2,000	26
Rainbow,	Fayette,.....	119,029	2,783	485	122,297	.....	244	130	.....	.....	480	100	8
Wick Haven,	Fayette,.....	248,057	10,950	500	259,507	.....	293	300	4	3	1,000	500	16
Darr,	Westmoreland...	468,923	10,335	585	479,843	.....	297	291	3	7	2,034	250	18
Cornell,	Allegheny, ...	176,939	1,300	.....	178,239	.....	243	162	1	1	700	.....	11
Sarah,	Allegheny, ...	19,317	20	75	19,432	.....	165	41	.....	1	20	.....	2
Ocean No. 1,	Westmoreland,..	138,582	6,000	500	145,082	.....	197	146	.....	1	400	.....	17
Ocean No. 2,	Allegheny, ...	324,786	.....	.....	324,786	.....	276	323	.....	6	1,400	.....	30
Ocean No. 4,	Allegheny, ...	88,869	600	200	89,669	.....	146	135	.....	.....	100	.....	15
Ocean No. 6,	Westmoreland...	131,533	200	.....	131,733	.....	239	135	.....	1	120	.....	13
Ocean No. 7,	Westmoreland...	93,297	400	.....	93,697	.....	175	142	.....	.....	200	.....	8
Shaners No. 2,	Westmoreland...	89,069	600	200	89,469	.....	190	130	.....	.....	220	.....	7
Youngs Slope,	Westmoreland..	125,349	700	1,800	127,949	.....	280	128	.....	.....	200	1,600	8
Bunola,	Westmoreland..	115,304	2,585	200	125,354	3,723	247	129	1	2	300	.....	9
Port Royal Nos. 1 and 2	Westmoreland..	246,197	7,000	900	276,597	21,500	289	244	.....	2	1,300	500	29
Smithton,	Westmoreland,.	98,993	1,025	742	99,415	5,770	240	120	1	.....	415	.....	8
Eureka,	Westmoreland...	266,691	1,352	334	267,777	.....	304	196	.....	6	1,000	600	17
Total,	.....	3,244,025	59,890	7,521	3,368,796	40,993	*242	3,179	14	35	11,629	5,550	249

H. C. Frick Coke Co													
Adelaide,	Fayette,		4,087	3,072	321,000	214,050	287	294	1			475	32
Davidson Shaft,	Fayette,		4,008	552	320,046	156,003	295	282	2	1		342	18
Henry Clay,	Fayette,		3,133	3,740	117,633	75,089	282	120		1	500	15	16
Morgan,	Fayette,				29,798		293	19			50		2
Plumer,	Fayette,		523	433	56,645		291	48					2
Rist,	Fayette,		1,679	3,920	272,052	201,900	293	233			955	50	28
Sterling No. 1,	Fayette,		1,235	568	69,007	46,005	287	65			8		6
Sterling No. 2,	Fayette,		1,014	646	144,000	96,500	217	248			700		30
Summit,	Fayette,		187	4,111	182,664	114,049	295	141			540		21
Tip Top,	Fayette,		72		107,259	71,550	291	111					19
Valley,	Fayette,		1,664	1,480	260,781	153,000	288	282			1,500	200	22
White,	Fayette,		95	4,133	168,450	112,300	290	151			675		24
Total,			17,697	22,455	2,050,326	1,280,496	*284	1,994	3	2	4,928	1,082	220
McClure Coke Co.													
Coal Brook,	Fayette,		1,224	707	104,667	76,828	294	195			70	50	17
Painter,	Fayette,		854	704	171,810	127,314	294	218			900	3,800	40
Diamond,	Fayette,		188	140	45,095	32,426	290	63			180	1,200	3
Bessemer and Rising Sun,	Westmoreland,		497	734	170,251	126,916	293	191			120		33
Buckeye,	Westmoreland,		1,236	1,162	129,732	86,802	290	175				665	32
Mullin,	Westmoreland,		2,376	2,700	63,856	42,811	288	77					9
Alverton No. 1,	Westmoreland,		1,694	2,980	161,106	119,937	296	203		1		155	30
Alverton No. 2,	Westmoreland,		28		56,503	42,377	247	106					7
Enterprise,	Westmoreland,		62	88	33,930	25,038	293	62				216	13
Total,			9,559	10,215	927,950	681,429	*287	1,200		1	1,270	6,086	184
W. J. Ramey.													
Grace,	Fayette,		1,875	1,875	230,278	153,519	305	360			1,000		25
Moreland Slope and Fort Hill,	Fayette,		3,164	840	246,654	157,722	310	354		1		200	24
Union,	Westmoreland,		132	147	35,896	23,411	308	62			10		
Total,			5,171	2,862	512,828	334,652	*308	776		1	1,010	200	49
W. H. Browns' Sons.													
Browns No. 1,	Allegheny,	16,443	444	114	17,007		54	112			50		12
Browns No. 2,	Allegheny,	73,619	558	348	74,525		146	192			150		13
Total,		90,068	1,002	462	91,532		*100	304			200		25
Lake Shore Gas Coal Co.													
Bravo,	Allegheny,	54,389		75	54,464		195	62			20		7
James W. Shields.													
Osceola,	Allegheny,	93,404	1,000		94,404		228	131			500		8
Jackson Mine Co													
Jackson,	Fayette,		400	1,000	30,405	22,804	258	44			4		5
J. R. Stouffer & Co.													
Dexter,	Fayette,			115	21,576	16,475	275	27			70		4

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes, tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
James W. Ellsworth & Co. Forrest Hill,	Allegheny,	231,467	4,495	580	236,542	.....	202	226	3	2	591	80	15
Belle Bridge Coal Co. Belle Bridge,	Allegheny,	13,992	168	.....	14,160	.....	112	101	.....	.....	.....	.....	7
Second Pool Mining Co. Lowdale,	Allegheny,	24,832	480	640	25,952	.....	128	68	1	.....	100	.....	2
Elizabeth Coal Co., Limited. Herner & Roberts,	Allegheny,	36,935	443	330	37,678	.....	140	90	.....	.....	70	.....	8
H. D. O'Neil & Co. Gospel,	Allegheny,	22,823	516	365	23,704	.....	249	52	.....	.....	60	.....	4
Pennsville Coke Co. Pennsville,	Fayette,	.....	808	604	55,330	43,646	275	76	.....	.....	300	.....	3
Scottdale I. & S. Co., Limited. Scottdale,	Fayette,	.....	16,574	.....	16,574	.....	304	17	.....	.....	.....	95	4
J. W. Overholt & Co. Upland No. 2,	Westmoreland,	.....	.....	557	16,654	12,794	284	17	.....	.....	10	100	5
L. F. Keister & Co. Franklin,	Fayette,	10,976	152	300	48,540	25,236	295	39	.....	.....	30	.....	5
Frank Rocks & Co. Rocks,	Fayette,	.....	.....	350	10,850	.....	300	14	.....	.....	.....	.....	1
D. H. Lynch Lynch,	Allegheny,	.....	.....	2,500	2,500	.....	150	8	.....	.....	4	.....	1

Laughlin & Co., Limited. Tyrone,	Fayette,	.....	550	834	96,732	65,557	283	103	.....	.....	200	.....	14
Marietta & Stillwagon. B. & O.,	Fayette,	88,761	200	250	89,211	.....	365	25	.....	.....	.....	.....	3
Amyville Yough Gas Coal Co. Amyville,	Westmoreland,	56,025	.....	200	56,225	.....	280	60	.....	.....	30	.....	9
Stauffer & Wiley. Home Works,	Fayette,	.....	.....	1,212	14,757	11,079	283	13	.....	.....	30	.....	1
Total,	.....	3,957,697	119,425	63,577	7,897,490	2,535,141	*264	8,624	23	43	21,056	13,193	933

*Average.

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
Pittsburgh Coal Co.																	
West Newton Shaft,	Westmoreland,	4	140	1	150	290	.....	.....	.....	5	470	3	1,000	500	1	.....	.....
Banning,	Fayette,	.....	.....	9	550	550	.....	.....	1	7	770	1	300	75	1	2	.....
Rainbow,	Fayette,	2	35	2	70	105	.....	.....	.....	3	35	1	250	100	.....	.....	.....
Wick Haven,	Fayette,	6	90	2	70	160	.....	.....	.....	7	500	1	80	30	.....	2	.....
Darr,	Westmoreland,	.....	.....	16	650	650	.....	.....	2	6	700	1	300	125	1	2	.....
Cornell,	Allegheny,	.....	.....	1	150	150	.....	.....	.....	1	150	1	125	15	1	.....	.....
Sarah,	Allegheny,	.....	.....	1	10	10	.....	.....	.....	1	10	.....	.....	.....	.....	.....	.....
Ocean No. 1,	Westmoreland,	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	.....	.....	.....	.....	.....
Ocean No. 2,	Allegheny,	.....	.....	.....	.....	.....	.....	.....	2	.....	.....	.....	.....	.....	.....	.....	.....
Ocean No. 4,	Allegheny,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ocean No. 6,	Westmoreland,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Ocean No. 7,	Westmoreland,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Shaners No. 2,	Westmoreland,	2	120	.....	.....	.....	.....	.....	.....	1	60	1	180	120	.....	.....	.....
Yough Slope,	Westmoreland,	2	70	1	150	220	.....	.....	.....	4	291	1	300	250	1	.....	.....
Euclid,	Westmoreland,	1	33	4	267	300	.....	.....	1	4	387	1	225	200	1	.....	25
Port Royal Nos. 1 and 2,	Westmoreland,	16	748	2	82	820	.....	.....	1	7	351	1	300	300	1	2	61
Smithton,	Westmoreland,	2	90	1	150	240	.....	.....	.....	5	250	1	225	225	.....	.....	50
Eureka,	Westmoreland,	2	90	1	150	240	.....	.....	.....	3	250	1	148	140	1	.....	.....
Total,		37	1,416	41	2,449	3,735	.....	.....	8	54	4,224	15	3,433	2,080	8	8	136

H. C. Frick Coke Co.																	
Adelaide,	Fayette,			5	350	350	1			4	450				1		375
Davidson Shaft,	Fayette,	2	90	4	360	450	3			8	920	3	2,600	1,000	1	1	333
Henry Clay,	Fayette,	2	70	1	150	220	1			3	195	1	260	156			120
Morgan,	Fayette,									1	10						
Plumer,	Fayette,	2	60			60				1	140						
Rist,	Fayette,	4	140			140	1			4	290						367
Sterling No. 1,	Fayette,	2	70		70	70											160
Sterling No. 2,	Fayette,	1	35	1	45	80	1			3	120						294
Summit,	Fayette,	1	15			15				1	20						222
Tip Top,	Fayette,			1	12	12				1	15						121
Valley,	Fayette,	3	105	1	45	150	1			4	225						251
White,	Fayette,			1	10	10				1	15						200
Total,		17	585	14	1,042	1,557	8			31	2,400	4	2,860	1,156	2	1	2,383
McClure Coke Co.																	
Coal Brook,	Fayette,			2	80	160				2	175						120
Painter,	Fayette,	2	32	2	45	77	1			1	120						228
Diamond,	Fayette,			1	20	20						1	274	200			66
Bessemer and Rising Sun,	Westmoreland,			2	40	80	1			2	135						273
Buckeye,	Westmoreland,			10	195	465	1				50	5	1,158	1,600			310
Mullin,	Westmoreland,			1	75	75				1	122						82
Alverton No. 1,	Westmoreland,	1	30	4	40	190	1			4	265						252
Alverton No. 2,	Westmoreland,	1	30	1	40	70											104
Enterprise,	Westmoreland,			1	15	15											51
Total,		4	92	24	550	1,152	4			10	867	6	1,432	1,800			1,486
W. J. Rainey.																	
Grace,	Fayette,	4	240	4	240	480				2	120	3	2,000	1,100			407
Moreland Slope and Fort Hill,	Fayette,			6	460	460				3	150	2	110	80		1	321
Union,	Westmoreland,																70
Total,		4	240	10	700	940				5	270	5	2,110	1,180		1	798
W. H. Browns' Sons.																	
Browns No. 1,	Allegheny,			2	400	400				6	500				2		
Browns No. 2,	Allegheny,	1	60	2	200	260	1			2	220						
Total,		1	60	4	600	660	1			8	720				2		
Lake Shore Gas Coal Co.																	
Dravo,	Allegheny,																
James W. Shields.																	
Osceola,	Allegheny,	3	200	2	200	400				1	80				1		
Jackson Mine Co.																	
Jackson,	Fayette,			2	20	40				1	15						53
J. R. Stouffer & Co.																	
Dexter,	Fayette,																40

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.			Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Air.	Electric.								
James W. Ellsworth & Co. Forrest Hill,	Allegheny,	1	110	6	705	815	.....	.....	2	8	815	2	550	280	2	.....	.....
Belle Bridge Coal Co. Belle Bridge,	Allegheny,	.....	.....	2	50	100	.....	.....	.....	2	100	.....	.....	.....	.....	.....	.....
Second Pool Mining Co. Lovedale,	Allegheny,	2	140	.....	.....	140	1	.....	.....	1	120	2	300	200	.....	.....	.....
Elizabeth Coal Co., Limited. Horner & Roberts,	Allegheny,	3	90	1	40	130	1	.....	.....	2	150	1	310	310	.....	.....	.....
H. D. O'Neil & Co. Gospel,	Allegheny,	.....	.....	2	70	140	.....	.....	.....	3	180	.....	.....	.....	1	.....	.....
Pennsville Coke Co. Pennsville,	Fayette,	2	80	2	60	140	1	.....	.....	2	130	2	120	100	.....	.....	92
Scottdale I. & S. Co., Limited. Scottdale,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
J. W. Overholt & Co. Emma No. 2,	Westmoreland,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	36
B. F. Keister & Co. Franklin,	Fayette,	1	20	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	50
Frank Rocks & Co. Rocks,	Fayette,	1	30	.....	.....	30	.....	.....	.....	1	20	1	200	100	.....	.....	.....
D. H. Lynch. Lynch,	Allegheny,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

Laughlin & Co., Limited. Tyrone,	Fayette,	1	30	.....	.....	.....	.....	.....	.....	2	65	.....	.....	.....	.....	.....	.....	.....	141
Marietta & Stillwagon. B. & O.,	Fayette,	.....	.....	2	67	67	.....	.....	.....	1	40	1	300	100	.....	.....	.....	.....	.....
Amyville Yough Gas Coal Co. Amyville,	Westmoreland,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Stauffer & Wiley. Home Works,	Fayette,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	20
Total,		77	3,093	110	6,486	9,979	16	1	10	131	1,076	38	11,615	7,306	16	10	5,235		

TABLE III—Showing the number of each class of employes at each colliery in the Ninth Bituminous District during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
Pittsburgh Coal Co.																	
Rainbow,	1	2	97	.....	10	2	6	118	.....	2	3	.....	.....	1	7	13	131
Week Haven,	1	2	239	.....	16	2	17	277	1	2	8	.....	.....	2	10	23	300
Banning,	1	2	135	.....	16	5	14	173	1	4	8	.....	.....	2	15	30	203
Irene,	1	2	195	6	16	2	30	252	1	6	8	.....	.....	4	20	39	291
West Newton Shaft,	1	1	160	.....	12	1	24	199	.....	2	4	.....	.....	2	17	25	224
Carroll,	1	.....	128	3	11	1	.....	145	.....	1	2	.....	.....	2	11	17	162
Sarah,	1	.....	32	.....	2	.....	2	37	.....	1	.....	.....	.....	1	.....	2	39
Ocean, No. 1,	1	1	80	2	10	3	15	122	1	3	2	.....	.....	1	18	24	146
Ocean, No. 2,	1	2	230	4	25	10	11	283	1	3	2	.....	.....	3	30	40	323
Ocean, No. 4,	1	1	80	2	14	2	5	115	1	2	1	.....	.....	1	15	20	135
Ocean, No. 6,	1	1	100	2	8	.....	4	116	1	2	.....	.....	.....	1	15	19	135
Ocean, No. 7,	1	1	110	2	7	2	4	127	1	2	1	.....	.....	1	10	15	142
Shaners No. 2,	1	1	96	.....	7	2	6	113	1	1	1	.....	.....	1	13	17	130
Youngs Slope,	1	1	84	.....	7	3	13	109	.....	3	5	.....	.....	1	10	19	128
Euclid,	1	1	100	4	8	2	3	119	.....	1	3	.....	.....	1	5	10	129
Port Royal Nos. 1 and 2,	1	5	146	.....	20	7	15	194	.....	3	11	.....	34	2	.....	50	244
Smithton No. 2,	1	.....	80	.....	7	.....	5	95	.....	3	4	.....	18	1	.....	26	121
Eureka,	1	.....	150	5	18	3	.....	177	.....	2	3	.....	.....	2	12	19	196
Total	18	23	2,263	30	215	49	173	2,771	9	45	56	.....	52	28	208	408	3,178

H. C. Frick Coke Co.																	
Adelaide,	1	2	132	19	14	1	.....	169	1	3	6	.....	113	2	.....	125	294
Davidson Shaft,	1	3	148	10	16	.....	9	187	1	4	6	.....	81	3	.....	95	282
Henry Clay,	9	1	50	1	7	.....	5	65	1	1	4	.....	47	2	.....	55	120
Morgan,	1	.....	15	1	2	.....	.....	19	.....	.....	.....	.....	.....	.....	.....	.....	19
Plumer,	1	.....	27	.....	2	.....	.....	30	.....	.....	2	.....	16	.....	.....	18	48
Rist,	1	1	104	2	12	.....	4	124	2	3	4	.....	98	2	.....	109	233
Sterling No. 1,	1	.....	33	1	4	1	.....	40	1	1	.....	.....	21	2	.....	25	65
Sterling No. 2,	1	.....	100	6	18	3	.....	128	1	4	3	.....	110	2	.....	120	248
Summit,	1	.....	65	1	11	.....	2	80	1	2	.....	.....	56	2	.....	61	141
Tip Top,	1	.....	60	4	7	.....	.....	72	1	1	.....	.....	37	.....	.....	39	111
Valley,	1	1	125	18	11	5	.....	161	1	4	4	1	108	3	.....	121	282
White,	1	.....	64	2	10	.....	3	80	1	2	.....	.....	66	2	.....	71	151
Total,	12	8	923	65	114	10	28	1,155	11	25	29	1	753	20	.....	839	1,994
McClure Coke Co.																	
Coal Brook,	1	1	50	.....	8	1	4	65	1	1	.....	.....	37	1	.....	40	105
Painter,	1	.....	83	.....	15	1	9	109	1	3	.....	.....	103	2	.....	109	218
Diamond,	1	.....	24	.....	3	.....	1	29	1	.....	.....	.....	33	.....	.....	34	63
Bessemer,	2	.....	57	.....	16	3	7	85	1	4	3	.....	86	2	.....	106	191
Buckeye,	1	1	50	.....	17	2	22	93	1	5	1	.....	46	3	.....	56	149
Mullin,	1	.....	31	.....	5	1	4	42	1	3	.....	.....	31	.....	.....	35	77
Hazlett,	.....	.....	.....	.....	.....	.....	.....	.....	1	.....	.....	.....	25	.....	.....	26	26
Alverton No. 1,	1	.....	90	.....	13	2	7	113	1	5	4	.....	77	3	.....	90	203
Alverton No. 2,	1	.....	45	.....	8	1	3	58	1	.....	.....	.....	47	.....	.....	48	106
Enterprise,	1	.....	25	.....	6	.....	2	34	1	1	.....	.....	26	.....	.....	28	62
Total,	10	2	455	.....	91	11	59	628	10	22	8	.....	521	11	.....	572	1,200
W. J. Rainey.																	
Fort Hill,	1	1	150	3	17	2	2	176	1	2	6	.....	165	4	.....	178	354
Grace,	1	.....	147	.....	20	3	11	182	1	5	5	.....	160	7	.....	178	360
Union,	1	.....	30	.....	4	.....	2	37	1	2	1	.....	17	4	.....	25	62
Total,	3	1	327	3	41	5	15	395	3	9	12	.....	342	15	.....	381	776
W. H. Browns' Sons.																	
Browns No. 1,	1	1	70	2	12	.....	3	89	.....	4	5	.....	.....	2	12	23	112
Browns No. 2,	1	2	136	4	13	1	4	161	.....	4	4	.....	.....	2	21	31	192
Total,	2	3	206	6	25	1	7	250	.....	8	9	.....	.....	4	33	54	304
Lake Shore Gas Coal Co.																	
Dravo,	1	.....	45	1	6	2	.....	55	.....	1	.....	.....	.....	2	4	7	62
James W. Shields.																	
Osceola,	1	1	96	.....	9	1	3	111	.....	3	4	.....	.....	4	9	20	131
Jackson Mine Co.																	
Jackson,	1	.....	21	3	2	.....	.....	27	1	1	.....	.....	14	1	.....	17	44

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.								Grand total inside and outside.
	Inside foreman or mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Employed in the manufacture of coke.	Superintendents, bookkeepers and clerks.	All other employes.	Total outside.	
J. R. Stouffer & Co. Dexter,	1	.....	12	2	2	.....	1	18	.....	.....	.....	.....	9	.....	.....	9	27
James W. Ellsworth & Co. Forrest Hill,	1	2	166	.....	15	3	9	196	1	3	3	.....	.....	2	21	30	226
Belle Bridge Coal Co. Belle Bridge,	1	.....	80	.....	6	1	1	89	1	1	1	.....	.....	1	8	12	101
Second Pool Coal Co. Lovedale,	1	1	51	.....	2	.....	1	56	.....	1	3	.....	.....	2	4	10	66
Elizabeth Mining Co., Limited. Horner & Roberts,	1	1	72	.....	5	1	.....	80	.....	1	2	.....	.....	1	6	10	90
H. D. O'Neil & Co. Gospel,	1	.....	35	2	3	.....	.....	41	1	1	2	.....	.....	2	5	11	52
Pennsville Coke Co. Pennsville,	1	.....	30	2	3	.....	2	38	1	1	3	.....	30	3	.....	38	76
Scottdale Iron and Steel Co., Limited. Scottdale,	1	.....	11	1	2	.....	.....	15	.....	.....	.....	.....	.....	.....	2	2	17
J. W. Overholt & Co. Emma,	1	.....	8	.....	1	.....	.....	10	.....	.....	.....	.....	6	.....	1	7	17

B. F. Keister & Co.																		
Franklin,	1	.....	18	1	3	.....	.....	23	1	.....	1	.....	13	1	.....	16	39
Frank Rocks & Co.																		
Rocks,	1	.....	9	.....	1	.....	.....	11	.....	.....	1	.....	.....	.....	2	3	14
H. D. Lynch.																		
Lynch,	.....	.....	6	.....	1	.....	.....	7	.....	.....	.....	.....	.....	1	.....	1	8
Laughlin & Co., Limited.																		
Tyrone,	1	.....	40	.....	5	3	5	54	1	2	1	.....	44	1	.....	49	103
Marietta & Stillwagon.																		
B. & O.,	1	.....	19	.....	2	.....	1	23	1	.....	1	.....	.....	.....	.....	2	25
Amyville Yough Gas Coal Co.																		
Amyville,	1	.....	41	.....	6	.....	7	55	.....	1	.....	.....	.....	.....	4	5	60
Stauffer & Wiley.																		
Home Works,	.....	.....	7	.....	1	.....	.....	8	.....	.....	.....	.....	4	1	.....	5	13
Total,	62	42	4,941	116	561	86	308	6,116	41	125	136	1	1,788	100	307	2,508	8,162

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Pittsburgh Coal Co													
Rainbow,	20	16	21	22	22	20	15	20	24	21	21	22	244
Wick Haven,	25	20	28	25	24	26	20	26	26	25	24	24	293
Banning,	26	24	26	23	17	24	24	24	25	24	22	24	283
Darr,	23	23	26	25	26	25	24	26	25	25	25	24	297
West Newton Shaft,	22	20	22	23	26	24	21	22	24	19	24	23	270
Cornell,	20	20	19	17	21	19	20	22	21	21	22	22	244
Sarah,	.....	.....	5	11	19	16	17	16	19	21	22	19	165
Ocean No. 1,	16	14	12	20	18	17	24	26	12	8	16	14	197
Ocean No. 2,	20	21	16	24	15	18	23	23	23	26	25	24	258
Ocean No. 4,	.....	.....	.....	.....	23	14	18	17	18	21	20	14	145
Ocean No. 6,	21	21	24	22	15	18	22	22	16	23	22	13	239
Ocean No. 7,	.....	.....	.....	18	18	16	22	24	19	19	23	16	175
Shaners No. 2,	14	16	14	20	18	17	24	10	16	14	13	14	190
Yough Slope,	26	25	25	23	25	24	24	20	20	25	23	22	282
Euclid,	16	23	25	9	25	19	20	25	25	18	22	20	247
Port Royal Nos. 1 and 2,	24	22	24	23	25	24	25	24	25	26	23	24	289
Smithton No. 2,	21	20	21	21	21	22	21	20	11	20	21	21	240
Eureka,	26	24	27	25	24	26	25	26	26	25	26	24	304
Total,	320	309	335	351	382	369	389	293	375	381	394	364	*242

H. C. Frick Coke Co.													
Adelaide,	22	20	23	22	24	22	25	26	26	26	26	25	287
Davidson Shaft,	23	23	25	24	23	23	25	27	26	25	26	25	295
Henry Clay,	22	20	23	23	23	23	25	25	23	24	26	25	282
Morgan,	22	22	24	23	23	24	25	25	26	26	26	25	293
Plumer,	23	23	24	24	23	23	25	27	23	25	26	25	291
Rist,	22	22	24	23	23	24	25	27	26	26	26	25	293
Sterling No. 1,	21	19	24	24	23	24	25	27	24	25	26	25	287
Sterling No. 2,	.....	.....	.....	20	24	24	25	25	23	25	26	25	217
Summit,	23	22	24	24	23	24	25	27	26	26	26	25	295
Tip Top,	22	21	24	24	23	24	25	27	24	26	26	25	291
Valley,	22	20	23	23	24	22	25	27	26	25	26	25	288
White,	23	21	24	25	23	24	25	27	22	25	26	25	290
Total,	245	233	262	279	279	281	300	319	295	304	312	300	*284
McClure Coke Co.													
Coal Brook,	23	21	25	24	23	24	25	27	26	25	26	25	294
Painter,	23	22	25	25	23	25	25	26	23	24	26	25	292
Diamond,	22	21	25	25	23	24	25	27	23	24	26	25	292
Bessemer,	22	23	25	24	24	24	25	27	23	25	26	25	293
Buckeye,	23	24	25	25	24	25	25	27	25	16	26	25	290
Mullin,	22	22	24	24	23	24	25	26	23	24	26	25	288
Hazlett,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Alverton No. 1,	14	24	26	25	27	25	25	27	26	26	26	25	296
Alverton No. 2,	.....	.....	15	25	27	25	25	27	26	26	26	25	247
Enterprise,	22	22	24	24	23	25	25	27	26	26	26	25	293
Total,	171	179	214	221	217	221	225	241	221	216	234	225	*287
W. J. Rainey.													
Fort Hill,	26	24	27	25	27	26	25	72	26	26	26	25	310
Grace,	27	24	26	24	25	26	24	27	26	26	25	25	305
Union,	25	24	27	25	27	26	25	27	26	26	26	24	308
Total,	78	72	80	74	79	78	74	81	78	78	77	74	*308
W. H. Brown's Sons.													
Browns No. 1,	.....	.....	.....	.....	.....	13	20	21	.....	.....	.....	.....	54
Browns No. 2,	19	2	22	22	21	21	1	.....	.....	1	18	19	146
Total,	19	2	22	22	21	34	21	21	.....	1	18	19	*100
Lake Shore Gas Coal Co.													
Bravo,	15	15	14	17	17	17	16	18	15	15	17	20	195
James W. Shields.													
Osceola,	15	16	18	18	10	16	20	23	20	23	25	24	228
Jackson Mine Co.													
Jackson,	2	.....	24	25	27	25	25	27	26	26	26	25	258

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
J. R. Stouffer & Co.													
Dexter,	18	18	18	20	25	25	26	26	25	26	24	25	276
James W. Ellsworth & Co.													
Forrest Hill,	15	13	15	16	17	16	17	19	17	17	19	21	202
Belle Bridge Coal Co.													
Belle Bridge,	11	9	23	23	26	18	.....	.....	.....	.....	.....	2	112
Second Pool Coal Co.													
Lovedale,	13	10	16	22	9	11	10	11	8	18	.....	.....	128
Elizabeth Mining Co., Limited.													
Horner & Roberts,	12	16	24	.....	.....	12	16	8	17	20	15	.....	140
H. D. O'Neil & Co.													
Gospel,	21	24	23	23	26	12	23	15	17	18	24	23	249
Pennsville Coke Co.													
Pennsville,	22	18	24	23	23	21	25	25	23	22	25	24	275
Scottdale Iron and Steel Co., Limited.													
Scottdale,	26	24	27	25	27	26	24	27	26	27	25	20	304
J. W. Overholt & Co.													
Emma,	23	22	22	21	23	21	25	27	25	26	24	25	284

Franklin, B. F. Keister & Co.	22	20	22	25	26	26	25	27	26	26	25	25	295			
Rooks, Frank Rooks & Co.	24	24	26	25	26	24	24	25	25	26	25	26	300			
Lynch, H. D. Lynch.	26	23	24	15	.....	.....	.....	.....	.....	15	22	25	150			
Tyrone, Laughlin & Co., Limited	23	23	23	25	24	23	19	21	26	25	26	25	283			
H. & O., Marietta & Stillwagon	31	28	31	30	31	30	31	31	30	31	30	31	365			
Amyville, Amyville Youth Gas Coal Co.	18	8	27	23	23	26	26	27	26	18	25	23	280			
Home Works, Stouffer & Wiley	21	20	22	21	24	21	24	27	26	26	26	25	283			
Total	1,191	1,126	1,236	1,244	1,262	1,223	1,283	1,429	1,347	1,385	1,448	1,371	16,077			

TABLE IV—List of fatal accidents that occurred in and about the mines of the Ninth Bituminous District, for the year ending December 31, 1899.

Date of accident	Name of Person.	Occupation.	Age.	Widow.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan 17.	William N Bellinger...	Tracklayer.	52	1	7	Adelaide,	Fayette,	Instantly killed by fall of slate.
27.	Daniel Tomish,	Miner,	30	1	....	Banning,	Fayette,..	Fatally injured by fall of coal.
25.	John Gray,	Miner,	45	1	6	Fort Hill,	Fayette,...	Fatally injured by fall of roof coal.
31.	Harry Howard	Miner,	22	S.	....	Wick Haven,	Fayette,	Fatally injured by falling down shaft a distance of 85 feet.
Mar 1.	Samuel McCracken,	Miner,	48	1	6	Browns No. 2,	Allegheny,	Fatally injured by fall of slate.
16.	John Balbi,	Miner,	60	1	....	Lovedale,	Allegheny,	Instantly killed by fall of slate.
April 18.	John Johnson	Miner,	63	1	1	Forrest Hill,	Allegheny,	Fatally injured by fall of coal and slate.
May 1.	Gabriel Sarbo,	Miner,	34	S.	....	Darr,	Westmoreland,..	Fatally injured by explosive gas.
19.	Martin Deal	Miner	37	1	2	Darr,	Westmoreland,..	Fatally injured by fall of coal.
June 10.	John Hruska,	Miner,	32	1	4	Banning,	Fayette,	Fatally injured by fall of slate.
12.	Guarro Formogalo,	Miner,	27	1	2	Wick Haven,	Fayette,	Instantly killed by fall of slate.
July 1.	Frederick Gras,	Laborer.	38	1	5	West Newton Shaft,	Westmoreland,..	Instantly killed by falling down shaft.
12.	Morris Wecker	Miner,	33	1	1	Forrest Hill,	Allegheny,	Instantly killed by fall of slate.
24.	George Saffnery,	Miner,	27	S.	....	Banning,	Fayette,	Instantly killed by fall of slate.
Aug 18.	John Kles.	Driver.	16	S.	....	Wick Haven,	Fayette,	Fatally injured by explosive gas; died 12 hours after accident.
Sept 23.	Mack Shultz.	Miner,	29	S.	....	Davidson Shaft,	Fayette,	Instantly killed by empty wagons.
Oct. 16.	John Yesunsky,	Miner,	38	W.	1	Euclid,	Westmoreland,..	Fatally injured by fall of slate.
23.	Anthony Barnsberg,	Miner,	17	S.	....	Davidson Shaft,	Fayette,	Instantly killed by fall of roof on a rib.
Nov 4.	John Bodish,	Miner,	30	W.	1	Forrest Hill,	Allegheny,	Killed by fall of slate in his room.
4.	Mike Murphy	Miner,	47	S.	....	Cornell,	Allegheny,	Fatally injured by a fall of coal.
29.	John M Larkin,	Miner,	42	M.	4	Smithton,	Westmoreland,..	Instantly killed by fall of rock.
Dec 14.	Tackko Welcswich,	Miner,	35	M.	3	Wick Haven,	Fayette,	Killed by premature explosion of powder.
22.	Steve Syke.	Miner,	43	M.	1	Darr,	Westmoreland,..	Instantly killed by a wagon which caught him against the rib.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Ninth Bituminous District, for the year ending December 31, 1899.

Date of accident.		Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan.	3.	Osker Ginter,	Miner,	25	S.	Darr,	Westmoreland,..	Body crushed by fall of roof and slate, while making repairs on haulage road.
	5.	Andy Ewark,	Miner,	29	S.	Darr,	Westmoreland,..	Leg broken by fall of slate.
	28.	Peter Orlandi,	Miner,	30	S.	Eureka,	Westmoreland,..	Leg broken by fall of coal.
Feb.	2.	Steve Estwanick,	Driver,	22	S.	Fort Hill,	Fayette,	Arm fractured in two places by falling from a loaded trip.
	9.	Henry Doblitz,	Miner,	41	M.	Eureka,	Westmoreland,..	Leg broken by a loaded wagon.
	27.	Andy Conloe,	Miner,	31	M.	Darr,	Westmoreland,..	Leg fractured by fall of coal.
Mar.	25.	Andy Vetany,	Miner,	27	S.	Darr,	Westmoreland,..	Leg broken by fall of slate.
April	7.	John Nicholis,	Miner,	28	S.	Darr,	Westmoreland,..	Ribs broken and back hurt by fall of slate.
	12.	Canup Calum,	Miner,	37	M.	Port Royal,	Westmoreland...	Back injured by fall of slate.
	15.	Reuben Cole,				B. & O.,	Fayette,	Arm cut off by having been caught between wagon and rib.
			Driver,	40	M.			
	23.	Andrew Neish,	Mine foreman,	58	M.	Allerton No. 1,	Westmoreland...	Leg fractured by being struck by a loaded wagon, knocking him off trestle.
	27.	William Souther,	Miner,	45	M.	Browns No. 2,	Allegheny,	Leg broken by fall of slate.
May	13.	Alex. Magok,	Miner,	50	S.	Darr,	Westmoreland,..	Eye blown out by premature shot in his room.
	27.	Mori Isaia,	Miner,	40	S.	Ocean No. 2,	Allegheny,	Hands, face and body burned by powder going off from lighted match while he was in empty trip going into the mine.
	27.	Christ Derongo,	Miner,	57	M	Ocean No. 2,	Allegheny,	Hands and face burned by loose powder going off in empty trip.
	27.	William Rey,	Miner,	39	M.	Ocean No. 2,	Allegheny,	Hands and face burned by loose powder going off.
	27.	Patrick Barlow,	Miner,	51	M.	Ocean No. 2,	Allegheny,	Hands and face slightly burned by loose powder going off while in empty trip going into the mine to his work.
	27.	William Baird,	Miner,	40	M.	Ocean No. 2,	Allegheny,	Hand and face severely burned by loose powder while in empty trip going in the mine to his work.

TABLE V—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
May 27.	William Baird, Jr.	Miner.	15	S.	Ocean No. 2.	Allegheny.	Hands and face severely burned by loose powder going off while in empty trip, going to his work.
28.	William George.	Miner.	45	M.	Cornell.	Allegheny.	Foot badly mashed by coal cutting machine.
June 17.	William Wilson.	Laborer.	18	S.	Ocean No. 6.	Westm reland.	Leg cut off by railroad car under the tipple, caused by mail train running into wrong switch.
19.	Gasper Trounce.	Miner.	32	M.	Wick Haven.	Fayette.	Leg fractured by fall of coal in his working room.
23.	Arthur Aultman.	Driver.	19	S.	Ocean No. 1.	Westmoreland.	Leg fractured by loaded trip running on him.
26.	Henry Sharpenberg.	Miner.	49	M.	Eureka.	Westmoreland.	Leg fractured by fall of slate.
26.	John Levare.	Miner.	30	M.	Forrest Hill.	Allegheny.	Leg broken and three ribs dislocated by fall of slate.
July 14	George Shaw.	Miner.	28	M.	Forrest Hill.	Allegheny.	Leg broken by empty wagon against an entry pillar.
27.	Joseph Flora.	Miner.	37	S.	Banning.	Fayette.	Leg broken by fall of slate.
Aug. 12.	Chas. Mobegonia.	Miner.	28	M.	Euclid.	Westmoreland.	Collar bone broken by being caught between empty wagon and rib.
17.	Frank Sauer.	Miner.	42	M.	Darr.	Westmoreland.	Body bruised by fall of slate.
18.	Thomas Edwards.	Driver.	31	S.	Port Royal.	Westmoreland.	Body bruised by being caught between loaded wagon and pillar.
29.	Antonia Domiano.	Miner.	49	S.	Eureka.	Westmoreland.	Ribs broken by fall of slate in his working room.
Sept. 16.	John Sharrar.	Miner.	50	S.	Smithton No. 2.	Westmoreland.	Leg broken by fall of roof coal while working on a rib.
28.	Nicholis Palone.	Miner.	36	S.	Banning.	Fayette.	Leg fractured by fall of coal in his working room.
Oct. 13.	Jas Amburganey.	Miner.	45	M.	Euclid.	Westmoreland.	Leg broken by fall of slate in his working room.
21.	Henry Kern.	Driver.	32	M.	Henry Clay.	Fayette.	Arm cut off by loaded wagon against rib.
30.	John Herith.	Miner.	27	S.	Banning.	Fayette.	Two ribs broken and head cut by fall of roof.

Nov.	13,	William Swink, ...	Driver, ...	43	M.	Davidson Shaft, ...	Fayette,.....	Wrist dislocated by being caught by wagon against pillar.
	16,	Ted Smart, ...	Miner, ...	35	S.	Sarah, ...	Allegheny, ...	Head and face badly cut by fall of slate.
	20,	Sabastiona Sarafini, ...	Miner, ...	38	M.	Eureka, ...	Westmoreland...	Body hurt inwardly by fall of slate.
	25,	Martin Fisher, ...	Trucklayer, ...	31	M.	Smithton No. 2, ...	Westmoreland...	Leg fractured by fall of slate on entry.
Dec.	1,	William Bayley, ...	Miner, ...	43	M.	Eureka, ...	Westmoreland...	Leg and arm broken by fall of slate.
	12,	Mike Jushock, ...	Miner, ...	31	M.	Wick Haven, ...	Fayette,.....	Leg fractured by fall of slate.
	13,	Joe. Vesnas, ...	Miner, ...	36	S.	Wick Haven, ...	Fayette,.....	Collar bone broken by fall of coal in his room.

Tenth Bituminous District.

HUNTINGDON, BEDFORD, FULTON AND BLAIR COUNTIES, AND THOSE PARTS OF CLEARFIELD, CAMBRIA AND INDIANA COUNTIES LYING ADJACENT TO THE BELLS GAP RAILROAD, AND THOSE PARTS OF CLEARFIELD, CENTRE AND CLINTON COUNTIES LYING ADJACENT TO THE BEECH CREEK RAILROAD.

Altoona, Pa., February 24, 1900.

Hon. James W. Latta, Secretary of Internal Affairs:

Sir: In accordance with the provisions of the Bituminous mine law, Section 2, Article 10, I herewith submit the annual report for this district for the year ending December 31, 1899.

The number of mines reported this year is sixty-five, and there will be found an increase in the number of persons employed, and in the number of tons of coal produced, and a decrease in the number of fatal accidents as compared with the previous year. The coal trade was very good during the latter part of the year, and in consequence several new mines have been opened and these are all expecting to ship coal in the beginning of 1900, and a considerable increase in production is looked for in the year 1900. The general condition of the mines has been up to the average of past years, and there is nothing special to report of any of them. In the nature of improvements the Glenwood Coal Co. at Glen Campbell has put in a chain haulage plant, also a Brazil fan at their new slope, while at their No. 4 mine a Stine fan has been installed, also some Jeffrey mining machines. At the Horton Run mine the company has put in a Stine fan for ventilation. At Glen Richey, the Peale, Peacock and Kerr Co. has put in a large haulage plant, and will also install a fan for the ventilation of the slope mine at that place. The Clearfield Bituminous Coal Corporation has put shafts down at its Moravian and Pleasant Hill Mines. W. G. Fishburn has put down a shaft at the face of the Kyler mine for ventilation. The Altoona Coal and Coke Co., at Delaney, has put in a large Ingersoll-Sargent compressor to furnish power for coal cutting machines, and has also installed a large Brazil fan for ventilation.

Harts mine at Munson was finished during the past year. The following are new operations started during the latter part of the year. John Hooten has opened a new mine and J. Swires also near Munson Station on the Beech Creek R. R. W. G. Fishburn is re-open-

ing the old Lueder slope near Munson. The Harbison-Walker Co. has opened a new mine at Woodland on the Beech Creek R. R. John Langdon, in the Broad Top Regions, has put a drift into a piece of coal left years ago in the old Chevington mine; he has put in a drift near to Cambria No. 2, and is also opening out the Cuba No. 2 mine, and expects to ship coal early in 1900. The Lehigh Valley Coal Co. opened two new mines at Snow Shoe, and the Kelly Brothers, of Snow Shoe, have re-opened the old Irvona mine at that place. At Coalport the Blain Run Coal Co. has opened a new mine, and are now shipping coal.

The following companies are using coal cutting machines in their mines: Peale, Peacock and Kerr, at their Bloomington 2 and 3 mines at Glen Richey, and at their Ogle mine, at Winburne. These machines are of the Puncher type. Somerville and Buchanan, at Somerville mine, Winburne, are using Morgan-Gardner electric chain machines. The Altoona Coal and Coke Co. is using Ingersoll-Sargent Punchers at the Delaney mine. The Glenwood Coal Co. is using Jeffrey electric chain machines at the Glenwood mine. The Rockhill Iron Co. is using Harrison compressed air machines at Robertsdale slope, and Woodvale shaft. The comparative merits of the machines above mentioned is a matter of opinion, they are all good in their way, and do the work well, so far as the undercutting is concerned, but when it comes to shooting down the coal, the Puncher machine mined coal makes a better quality of lump coal, owing to the mining being cut higher than with the chain machine. As regards accidents, there seems to be no greater number from falls of coal in machine mines than in pick mines, and I think there will be fewer accidents from falls of coal in machine mines, than in pick mines, and if there is any danger, it is where there is a bone coal or draw slate lying on top of the coal, for in these cases the men are more likely to be injured, for if the bone coal or draw slate does not come down with the coal, the danger in this case is greater than in pick mining, on account of the increased depth to which the machines undercut the coal as compared with pick work, thus necessitating a larger width of bone coal, or draw slate being left up while the miner takes the coal from under it when loading. Where electric machines and motors are used, there is danger of shocks by coming in contact with the wires, but in the mines in this district so far, there have been no serious accidents from this source, and the men soon get to understand the danger of the current, and consequently are careful in going to and fro where the wires are on the headings. There is one thing I note in mines where machines are working, and that is the time for shooting the coal down cannot be regulated as in mines where it is dug by the pick, for in machine mines, a man is obliged to shoot whenever he wishes to, for he has nearly double the quantity of coal to load if he is work-

ing after a machine than if he was digging it with a pick, consequently what with dust from the machines and the almost incessant shooting, the atmosphere is not as clear and healthful as in picked mined rooms, where the miner has a better chance to regulate the time for firing shots. The majority of the mines in this district are not well adapted for the use of mining machines, as the coal is low, and in many instances there is bone coal in the vein.

So far no explosive gas has been encountered in the district, and the three shafts in this district are of moderate depth, and so far no gas has been encountered in any of them, nor in any of the slopes in the district.

In the tables accompanying this report will be found a brief description of the fatal accidents that occurred during the year. The report is respectfully submitted.

R. HAMPSON,
Inspector.

Mining Statistics.

Number of mines in the district	65
Number of mines in operation in 1899	65
Number of tons of coal produced	3,886,762
Number of tons shipped	3,553,309
Number of tons used for steam at the mines	27,279
Number of tons sold to employes and others	22,642
Number of coke ovens	1,191
Number of tons of coke produced	252,461
Number of persons employed inside the mines	5,230
Number of persons employed outside the mines	548
Number of fatal accidents	9
Number of tons of coal produced per fatal accident	431,862
Number of non fatal accidents	38
Number of tons of coal produced per non-fatal accident	102,283
Number of persons employed per fatal accident	642
Number of persons employed per non-fatal accident	152
Number of wives made widows by accidents	7
Number of children orphaned by accidents	27
Number of kegs of powder used	23,616
Number of pounds of dynamite used	18,064
Number of cylindrical boilers in use	27
Number of tubular boilers	36
Number of steam locomotives	4
Number of air locomotives	..
Number of electric locomotives	8
Number of new mines opened	8
Number of old mines abandoned	1

The accidents are classified as follows:

	Fatal.	Non-fatal.
By falls of coal,	2	5
By falls of slate,		1
By falls of roof,	6	16
By cars,		10
By explosion of gas,		
By electricity,		
By premature blasts,	1	1
By powder and dynamite explosions,		2
By mining machines,		
By machinery in general,		1
Miscellaneous causes,		2
Total,	9	38

TABLE Giving Name of Mine, System of Haulage, Method of Ventilation, whether a Drift or Slope, Pick or Machine Mine, and Type of Machine.

Name of Mine.	Haulage.	Fan or Furnace.	Drift, Slope or Shaft.	Pick or Machine.	Type of Machine.
Delaney,	Rope and mules,	Fan and furnace,	Drift and slope,	Pick and machine.	Compressed air.
Horse Shoe,	Mules,	Furnace,	Drift,	Pick.	
Gazzem No. 1,	Mules,	Fan,	Drift,	Pick.	
Gazzam No. 2,	Mules,	Furnace,	Drift,	Pick.	
Grass Flat,	Rope and mules,	Fan,	Drift,	Pick.	
Knox Run,	Mules,	Furnace,	Drift,	Pick.	
Moravian,	Mules,	Furnace,	Drift,	Pick.	
Pleasant Hill,	Mules,	Furnace,	Drift,	Pick.	
Crescent No. 1,	Rope and mules,	Fan,	Slope and drift,	Pick.	
Crescent No. 2,	Mules,	Furnace,	Drift,	Pick.	
Crescent No. 3,	Mules,	Furnace,	Drift,	Pick.	
Dunham No. 1,	Rope and mules,	Fan,	Slope,	Pick.	
Dunham No. 2,	Rope and mules,	Fan,	Drift,	Pick.	
Glen White No. 1,	Rope and mules,	Fan,	Slope,	Pick.	
Glen White No. 2,	Mules,	Furnace,	Drift,	Pick.	
Glenwood No. 1,	Motor and mules,	Fan and furnace,	Drift,	Pick and machine.	Electric.
Glenwood No. 2,	Chain and mules,	Fan,	Slope,	Pick.	
Forest,	Mules,	Furnace,	Drift,	Pick.	
Royal Slope,	Rope and mules,	Fan,	Slope,	Pick.	
Harvey Slope,	Rope and mules,	Fan,	Slope,	Pick.	
Warner,	Mules,	Furnace,	Drift,	Pick.	
Sugar Camp No. 2,	Mules,	Furnace,	Drift,	Pick.	
Sugar Camp No. 3,	Mules,	Furnace,	Drift,	Pick.	
National No. 1,	Mules,	Fan,	Drift,	Pick.	
National No. 2,	Mules,	Furnace,	Drift,	Pick and machine,	Compressed air.
Bloomington No. 1,	Rope and mules,	Fan,	Drift,	Pick and machine.	Compressed air.
Bloomington No. 2,	Mules,	Fan,	Drift,	Pick.	
Bloomington No. 3,	Rope and mules,	Fan,	Slope,	Pick and machine,	Compressed air.
Ogle,	Motor and mules,	Fan,	Drift,	Pick and machine,	Compressed air.
Robertsdale Slope,	Rope and mules,	Fan,	Slope,	Pick and machine,	Compressed air.
Woodvale Shaft,	Mules,	Fan,	Shaft,	Pick.	
Carbon,	Mules,	Furnace,	Drift,	Pick.	
Huntingdon,	Mules,	Furnace,	Drift,	Pick.	
Ocean No. 1,	Mules,	Furnace,	Drift,	Pick.	
Ocean No. 2,	Mules,	Furnace,	Drift,	Pick.	
Cambria No. 1,	Mules,	Fan,	Drift,	Pick.	
Cambria No. 2,	Mules,	Fan,	Shaft,	Pick.	
Urey No. 1,	Mules,	Furnace,	Drift,	Pick.	
Urey No. 2,	Mules,	Furnace,	Drift,	Pick.	
Urey No. 3,	Mules,	Furnace,	Drift,	Pick.	
Blands,	Mules,	Furnace,	Drift,	Pick.	
Blain Run,	Mules,	Furnace,	Drift,	Pick.	
Bradley,	Mules,	Furnace,	Drift and shaft,	Pick.	
Benedict,	Mules,	Furnace,	Drift,	Pick.	

TABLE Giving Name of Mine, System of Haulage, Etc.—Continued.

Name of Mine.	Haulage.	Fan or Furnace.	Drift, Slope or Shaft.	Pick or Machine.	Type of Machine.
Burnside,	Mules,	Furnace,	Drift,	Pick.	
Cato,	Mules,	Furnace,	Drift,	Pick.	
Cunard,	Rope and mules,	Fan and furnace,	Shaft and slope,	Pick.	
Cherry Run,	Mules,	Furnace,	Drift,	Pick.	
Loughberty,	Mules,	Furnace,	Drift,	Pick.	
Edmonds,	Mules,	Furnace,	Drift,	Pick.	
Fisher,	Mules,	Furnace,	Drift,	Pick.	
Fricks,	Mules,	Furnace,	Drift,	Pick.	
Great Bend,	Mules,	Furnace,	Drift,	Pick.	
Harts,	Mules,	Furnace,	Drift,	Pick.	
Horton Run,	Rope and mules,	Furnace,	Drift,	Pick.	
Peoria,	Locomotive, rope and mules,	Fan,	Slope,	Pick.	
Swamp,	Motor and mules,	Fan,	Drift and slope,	Pick.	
Soder,	Mules,	Fan,	Drift and slope,	Pick.	
Lemon,	Motor and mules,	Furnace,	Drift,	Pick.	
Mountaindale,	Mules,	Fan,	Drift,	Pick.	
Shantee,	Motor and mules,	Furnace,	Drift,	Pick.	
Oakland,	Rope and mules,	Furnace,	Drift,	Pick.	
Penn,	Mules,	Furnace,	Drift,	Pick.	
Penna,	Mules,	Furnace,	Drift,	Pick.	
Somersville,	Mules,	Furnace,	Drift,	Pick.	
Snow Shoe,	Motor and mules,	Fan,	Drift,	Pick.	
Turley,	Mules,	Furnace,	Drift,	Pick and machine,	Electric.
	Mules,	Furnace,	Drift,	Pick.	

Description of Mines.

Mines on the Beech Creek Railroad.

The Clearfield Bituminous Coal Corporation is the largest on this line of railroad, and at present is operating Gazzam, Grass Flat, Knox Run, Pleasant Hill and Moravian mines. These have all been worked very steadily during the year, and the production of coal has been large. At Gazzam No. 1 connection between the new and the old drifts has been made, and this new opening has concentrated the work very much, as most of the men are in the new work. In the north side of the old mine they are pulling out the heading pillars, while in the south side nothing is being done at present. The ventilation and drainage were very good during the year, as everything is kept in good order, well looked after. At Gazzam No. 4 the work was confined mostly to pulling out pillars, and there are a few miners finishing the mine.

Grass Flat mine has been in good condition for ventilation and drainage, and the same may be said of Pleasant Hill, Knox Run and Moravian mines as everything is done to keep the mines up to a proper standard as regards ventilation. Pleasant Hill and Moravian mines are a long distance in now, and during the latter part of the year, ventilating shafts have been put down near the face of the work in each mine, and large furnaces will be erected at both. Connection has been made during the year between Moravian and Pleasant Hill mines, and as there has long been a connection between Pleasant Hill and Grass Flat mine, one could travel all through these mines without coming outside. Everything in and about the mines is in good condition.

Peale, Peacock and Kerr, are the next largest operators on this railroad and they operate Bloomington mines 1, 2 and 3 at Glen Richey and Ogle mine, at Winburne. No. 1 Bloomington has not employed a great number of miners as the territory was limited, and most of the workings were to the dip, but they are now commencing work on the upper part of the mine, and this will give work for some time to come. The condition of the mine was good at the visits made during the year. In No. 2 mine they have got as far as it was profitable to haul the coal, so no more headings are being driven in the main part of the mine, but there are some being opened on the right of the main haulage road, and in this part of the work where there was more or less trouble from water, they have put in a water drain, so there is no further need of pumps, and connection has also been made with No. 1 mine, and as a part of the ventilation comes in at this point, this portion of the mine is in good condition, while at the back part of the workings on the main haulage road the condition was fair. The coal in this mine is worked with mining machines, although there is a considerable quantity dug by pick.

At the new slope or No. 3 the work during the year has been confined to widening out the slope to make it wide enough for double track, and headings have been turned off to the right and left, but not much can be done until the machinery is in place, as they are putting in haulage machinery, and a fan for ventilation, so that during the coming year they will be able to make a good showing in the production of coal from this opening.

Ogle mine is a machine mine and has been worked steadily, and they are now making preparations for a larger output, as they are getting into the main body of the coal, and are able to turn headings off to the right and left of the main haulage road. The ventilation in one portion was not very good, as they have to carry the airway along the old workings and they are now trying to change this, and I hope soon to be enabled to report this portion of the mine as being all right. The coal cutting is done by Puncher machines, which do the work well. The haulage is by electric motors, and this is destined to be a big mine in the near future.

O'Shanter mine at Mitchell station has been worked reasonably well, as it was not always possible for them to get all the miners they needed owing to the coal being low, and work being good at other places.

The ventilation was only fair during the year, and as the headings are now entering the main body of coal, a new furnace will soon be needed, as the present one is too far from the face of the workings.

At Munson there are the Forest and Royal mines operated by the O. P. Jones Estate; at the Forest mine they have not been able to get through the big fault, so the mine will soon be on the return, as there are no more headings to be turned off, and the solid coal is very limited in area. The ventilation of one part of the mine was good, and at the upper portion next the fault it was not very good, at the last visit. Royal slope was found in good condition during the different visits, as they have had no faults to contend with, the workings laying very regular. Operations were suspended for a time during the summer owing to some difficulty with the miners, and the dip became filled with water, so that they have not been able to work this portion of the mine very much, owing to its taking so long to get the water out, but now they will be able to turn their attention to this part of the mine, and as the main body of coal is on this side of the slope, they are endeavoring to get this portion worked as soon as possible, so as to dispense with haulage up the grade also so much pumping.

Kyler mine has worked steadily, and the condition of the mine was good during the year. A ventilating shaft has been sunk near the face of the workings, and they contemplate putting in some machinery for haulage. They have again commenced the manufacture of coke at this plant, owing to the demand for that commodity. As a great

quantity of the coal in this property lays to the dip, they are now about to open up the old Lueder slope, which will give them an entrance to the main body of the coal at the lowest point, and will drain the whole territory, which will make a good large mine for them.

Hart's mine was finished during the year, and at this place Munson J. Swires and John Hooten are each opening a mine on this same vein, but will not be able to do much until the railroad switch is put in. Sommerville and Buchanan mines have worked very well during the year. At the beginning of the year all the headings were going into a basin, and they had a great deal of trouble with water, but at the latter part of the year, the headings seemed to be going to the rise, and there has not been so much trouble from that source. The condition of the mine very fair. The coal is cut by electric chain machines, and hauled to the tipple by motors.

At Snow Shoe are located the large mines of the Lehigh Valley Coal Co., and these mines have run very well during the year. In No. 2 opening on the lower vein connection has been made into No. 4 opening, and from No. 4 into No. 7, so now the three openings are connected and here the main body of the miners are employed, and the largest quantity of coal loaded. On the other side of the hollow is No. 5 opening on the lower vein, and around the hill a new opening has been put in on the same vein, and this coal comes to a different tipple. The upper vein at this place is nearly worked out, and there is nothing left now but pillars. The ventilation was good.

During the past year this company has opened two mines about a mile from the Sugar Camp mine, which on my last visit were just commencing to ship coal. Ventilating shafts have been put down, and they will put in furnaces for ventilation. One opening is on the upper and the other on the lower vein, but coal from both comes to the same tipple.

The prospects are very good for a largely increased production from these mines for the coming year.

Kelly Brothers have opened the old Irvona mine during the year, and made connection with another mine farther round the hill, and have also put an opening into a piece of coal lying to the dip of their present opening, and have opened up the big vein on top of the hill, so that they will be enabled to do a big business for 1900.

The mines are ventilated by furnace, and are in good condition; the drainage is also good.

The Cherry Run mine was in fair condition during the year, and they are still having trouble with rolls, clay veins and swamps, and the coal does not increase in thickness. The Cato mine has worked more or less steadily during the year and its condition was very fair

Mines on the Bells Gap Railroad.

Blands mine has worked steadily during the year, and as the coal is used for supplying the locomotives on the railroad, there has been about the same number of men employed as before. They have made a connection with the Great Bend mine that was abandoned years ago, and are cleaning out the pillars, and the solid coal that was left near the outcrop. The mine was in good condition.

Fricks mine was in good condition during the year. They have done considerable work in opening up new headings, and the roof has improved very much, and there is not so much danger now from its falling as there was formerly, for the roof gets harder the further the mine goes in, and the coal also gets thicker and better. Great Bend mine, just above this mine, has had more or less trouble with poor roof in one part of the mine, but that is improving, and becoming safer as they penetrate farther in; the coal is cleaner and thicker, and the general condition was very fair during the year. Eldorado mine has been worked to a limited extent, and an effort has been made to improve the roads and ventilation during the latter part of the year, and it was in fair condition. This company is at present putting in an opening on the lower vein "A," and it will be a good thing if this vein turns out well, for the territory is very large. George Turley has opened the old Great Bend mine adjoining the Eldorado, and is cleaning out the pillars, and will try to get at a solid piece of coal that was left years ago by the former operators of this mine. The mine was in fair condition for ventilation and drainage. The Mountaindale mine was in good condition during the different visits during the year, and at the last visit they were re-opening the old mine, with the object of cleaning out all the pillars and stumps that were left in it. The owners have done considerable prospecting during the year for the vein below this, but it has not proved satisfactory so far. The above mines are in the vicinity of Mountaindale.

The next mine in the vicinity of Coalport is the Penna mine, and this has not been worked regularly during the year, as it changed hands several times, but on the occasions of my visits it was in good condition. The Oakland mine has worked well, and they are now trying to get down to the dip with the main heading, so as to get an outlet for the water on the other side of the property, and if this can be accomplished, it will give a large body of excellent coal to work. The ventilation of the mine was fair. The Blain Run Coal Co. has opened a new mine at Coalport, and on my last visit they were just getting into the coal, and were preparing to cut into an old opening so as to make a second outlet, and will put in furnace for ventilation. The Irvona Coal Co. has done a great deal of work at their mine during the year, and have put in a new opening, that strikes the headings in the large body of coal to the right of their slope, so that a large

quantity of the coal now comes from this new opening, and the coal in this part of the mine shows up very well. The roof is getting to be of a harder nature, and is not in need of so much timber as formerly. The general condition of the mine was good.

The Philadelphia Coal and Coke Co's mines, National 1 and 2 have worked steadily, and in the No. 1 mine they have opened up considerable work, while No. 2 mine has been confined to working out the pillars in the main and cross headings, and they have put in a new opening in the dip portion of No. 2 so as to get at the coal lying under water. The ventilation was good.

The next group of mines are in the neighborhood of Glen Campbell, and the largest operator here is the Glenwood Coal Co., which is at present taking coal out of four openings. The territory is becoming very limited, as on my last visit nearly all the headings were going to the outcrop, and the end of this part of the property is in sight. The old workings are ventilated by furnace, and on some of my visits I had to call the attention of those in charge to the poor condition of one portion of the mine, but on my last visit it was a little better. The last opening put in is ventilated by a fan run by an electric motor, and this part was in good condition. They are at present working a few mining machines in the thick coal, and the coal is hauled to the tipple by electric motor. They have done considerable work at the slope mine on the "B" seam, and have put in a good haulage plant, which is run by electric power from the power station at Glenwood No. 4; they have also erected a fan for ventilating the mine.

The coal so far has not proved to be very thick, so they have not opened the mine very rapidly, but it is to be hoped as they go farther into the property, the coal will improve in thickness. The ventilation was good. The Penn mine on the adjoining property operated by Reakirt Bros., have put in a new opening at the upper part of the property, and so cut off the old portion of the mine, which will now be cleaned out by taking out the pillars, and attention will be paid to this new piece of coal, which will last a few years. A furnace shaft is to be put down for ventilation of the new opening during the winter. The ventilation was very fair during the year. The Horton Run Coal Co. has during the year taken the old Glenwood No. 2 mine, and is now operating it. On my first visit ventilation was very poor, and a furnace was put in which improved it considerably. On my last visit they were erecting a Stine fan for the ventilation of the mine, and were also driving from the inside of the mine, a new slope to the surface, which when completed, will shorten the haulage very considerably.

The Grey Ridge Coal Co. has three openings on the branch railroad and is working in the same vein as the Horton Run people, and have done considerable work in their No. 1 mine in the way of opening headings in the new lease. The ventilation of all these mines was

very good during the year. The Clark Brothers, of Glen Campbell, are putting in a new opening, and will be shipping early in 1900.

The Burnside Coal Company has worked the Burnside mine very steadily during the year. The ventilation and drainage was good at the different visits.

Mines in the Broad Top Region.

Benedict mine operated by Chester D. Reed was found in a very fair condition during the year, and on my last visit a new opening had been made which will make this the main opening for the future, as the coal looks very promising. The Huntingdon mine has worked steadily all the year, but the headings are getting to the end of the property, and unless a new lease of the adjoining property is made, this mine will not last much longer. Ocean 1 mine has worked well, and both the Barnet and Fulton seams are being worked from this opening, and they have a large body of coal to work at. Ocean 2 is still having large pitches to contend with, and during the year they have cut into the old Fisher mine that adjoins them to the east. In the Carbon mine there has been more or less exploring for coal during the year, and they have now got into a good body of coal in the Fulton, and during the year they have tunneled into the Barnet seam, and will work both seams from this same opening. The condition of these mines has been very fair during the year. W. H. Sweet, operator.

The Fisher mine, operated by E. E. Eichelberger, immediately adjoins the Ocean 2 mine, which as mentioned before, are connected with each other, and help to ventilate one another. The new opening put in here will soon be worked out, and now they are trying to get around the roll at the back end of the old mine, and if they succeed, it will give them a large body of coal to work. The condition of the mine was good.

At Robertsdale is located the mines of the Rockhill Iron Co., and the work has been very irregular during the year. They have tunneled in the Robertsdale slope from the Barnet to the Fulton seam, and at the Woodvale shaft they have sunk a shaft from the Barnet to the Fulton seam, and on my last visit were opening it out, and have connected the slope with the shaft workings.

TABLE I—Showing Names of Operators, etc., and Location of Collieries in the Tenth Bituminous District, 1899.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Delaney,	Cambria,	Altoona Coal and Coke Co.,	T. K. Maher,	Altoona.
Horse Shoe,	Blair,	Altoona Coal and Coke Co.,	T. K. Maher,	Altoona.
Gazzem No. 1,	Clearfield,	Clearfield B. C. Corporation,	R. A. Shillingford,	Peale.
Gazzam No. 2,	Clearfield,	Clearfield B. C. Corporation,	R. A. Shillingford,	Peale.
Grass Flat,	Clearfield,	Clearfield B. C. Corporation,	R. A. Shillingford,	Peale.
Knox Run,	Clearfield,	Clearfield B. C. Corporation,	R. A. Shillingford,	Peale.
Moravian,	Clearfield,	Clearfield B. C. Corporation,	R. A. Shillingford,	Peale.
Pleasant Hill,	Clearfield,	Clearfield B. C. Corporation,	R. A. Shillingford,	Peale.
Crescent No. 1,	Bedford,	Crescent Coal Mining Co.,	John Langdon,	Hopewell.
Crescent No. 2,	Bedford,	Crescent Coal Mining Co.,	John Langdon,	Hopewell.
Crescent No. 3,	Bedford,	Crescent Coal Mining Co.,	John Langdon,	Hopewell.
Dunham No. 1,	Bedford,	Colonial Iron Co.,	William Lander,	Riddlesburg.
Dunham No. 2,	Bedford,	Colonial Iron Co.,	William Lander,	Riddlesburg.
Glen White Nos. 1 and 2,	Blair,	Glen White Coal and Timber Co.		
Glenwood No. 1,	Indiana,	Glenwood Coal Co.		
Glenwood No. 2,	Indiana,	Glenwood Coal Co.		
Forest,	Clearfield,	O. P. Jones Estate.		
Royal Slope,	Clearfield,	O. P. Jones Estate.		
Harvey Slope,	Bedford,	Lambirth Mining Co.		
Warner,	Bedford,	Lambirth Mining Co.		
Sugar Camp No. 2,	Centre,	Lehigh Valley Coal Co.,	W. A. Lathrop,	Wilkes-Barre.
Sugar Camp No. 3,	Centre,	Lehigh Valley Coal Co.,	W. A. Lathrop,	Wilkes-Barre.
National No. 1,	Clearfield,	Philadelphia Coal and Coke Co.		
National No. 2,	Clearfield,	Philadelphia Coal and Coke Co.		
Bloomington No. 1,	Clearfield,	Peale, Peacock & Kerr,	Alex. Dunsmore,	Glen Richey.
Bloomington No. 2,	Clearfield,	Peale, Peacock & Kerr,	Alex. Dunsmore,	Glen Richey.
Bloomington No. 3,	Clearfield,	Peale, Peacock & Kerr,	Alex. Dunsmore,	Glen Richey.
Ogle,	Clearfield,	Peale, Peacock & Kerr,	Alex. Dunsmore,	Glen Richey.
Robertsdale Slope,	Huntingdon,	Rockhill Iron Co.		
Woodvale Shaft,	Huntingdon,	Rockhill Iron Co.		
Carbon,	Huntingdon,	W. H. Sweet.		
Huntingdon,	Huntingdon,	W. H. Sweet.		
Ocean No. 1,	Huntingdon,	W. H. Sweet.		
Ocean No. 2,	Huntingdon,	W. H. Sweet.		
Cambria No. 1,	Bedford,	United Collieries Co.		
Cambria No. 3,	Bedford,	United Collieries Co.		
Urey No. 1,	Indiana,	Urey Ridge Coal Co.		
Urey No. 2,	Indiana,	Urey Ridge Coal Co.		
Urey No. 3,	Indiana,	Urey Ridge Coal Co.		
Blands,	Cambria,	Fred. Bland.		
Blain Run,	Clearfield,	Blain Run Coal Co.		
Bradley,	Blair,	Bradley & Meagher.		
Benedict,	Huntingdon,	Chester D. Reed.		
Burnside,	Clearfield,	Burnside Coal Co.		
Cato,	Centre,	Kelly & Nugent.		
Cunard,	Bedford,	Morrisdale Coal Co.		

TABLE I—Continued.

Names of Collieries.	County.	Name of Operator.	Name of General Superintendent.	Postoffice Address.
Cherry Run,	Centre,	Snow Shoe Mining Co.		
Dougherty,	Cambria,	Dougherty Coal Co.		
Eldorado,	Cambria,	E. F. Spencer.		
Fisher,	Huntingdon,	E. Eichelbenger.		
Fricks,	Cambria,	Max Frick.		
Great Bend,	Cambria,	Bellwood Coal Co.		
Harts,	Clearfield,	Thomas Hart.		
Horton Run,	Indiana,	Horton Run Coal Co.		
Irvona,	Clearfield,	Irvona Coal Co.		
Kearney,	Bedford,	Joseph Thropp.		
Kyler,	Clearfield,	W. G. Fishburn.		
Lemon,	Blair,	Gallitzin Coal and Coke Co.,	W. A. Smith,	Gallitzin.
Mountaindale,	Cambria,	W. J. Nicolls.		
O Shanter,	Clearfield,	Weaver & Ettla.		
Oakland,	Clearfield,	S. Hegarty's Sons.		
Penn,	Indiana,	Reakirt Bros. & Co.		
Penna.,	Clearfield,	Preston Coal Mining Co.		
Sommerville,	Clearfield,	Sommerville & Buchanan.		
Snow Shoe,	Centre,	Kelly Bros.		
Turley,	Cambria,	Turley & Co.		

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Delaney,	John Munro,	Kittanning Point,		Thomas Tobin.	
Horse Shoe,	John Munro,	Kittanning Point.			
Gazzem No. 1,	James Methven,	Gazzam,		James Methven.	
Gazzam No. 2,	James Methven,	Gazzam,		Samuel Mitchel.	
Grass Flat,				James Adamson.	
Knox Run,				George Dixon.	
Moravian,				William Fleming.	
Pleasant Hill,				Samuel Green.	
Crescent No. 1,				William Spears.	
Crescent No. 2,				John Loyd.	
Crescent No. 3,				William Powell.	
Dunham No. 1,	J. C. Allen,			James Allen.	
Dunham No. 2,				John T. McIntyre.	
Glen White Nos. 1 and 2,	Valentine Eichenlaub,	Glen White,		Frank Morinson.	
Glenwood No. 1,	A. M. Riddle,	Glen Campbell,		Andrew Patrick.	
Glenwood No. 2,	A. M. Riddle,	Glen Campbell,		Robert Quigley.	
Forest,	John Horten,	Munson,		John Horter.	
Royal Slope,	Fred. Pilkington,	Munson,		Fred. Pilkington.	
Harvey Slope,	John McIntyre,	Six Mile Run,		John McIntyre.	
Warner,	Gilbert McIntyre,	Six Mile Run,		James Jenkins.	
Sugar Camp No. 2,	James F. Mantilla,	Snoe Shoe,		Robert Cooper.	
Sugar Camp No. 3,	James F. Mantilla,	Snoe Shoe,		Lewis Price and Andrew Spencer.	
National No. 1,	L. Gardner,	Irvona,		William Bell.	
National No. 2,	L. Gardner,	Irvona,		L. Gardner.	
Bloomington No. 1,	Alex. Dunsmore,	Glen Richey,		W. Dunsmore.	
Bloomington No. 2,	Alex. Dunsmore,	Glen Richey,		L. Blenkinop.	
Bloomington No. 3,	Alex. Dunsmore,	Glen Richey,		Andrew Harvey.	
Ogle,	Alex. Dunsmore,	Glen Richey,		Richard George,	J. E. Thompson.
Robertsdale Slope,	S. Clemens,	Robertsdale,		S. Clemens.	
Woodvale Shaft,	S. Clemens,	Robertsdale,		Thomas Jones.	
Carbon,	W. H. Sweet,	Dudley,		George Mitchell.	
Huntingdon,	W. H. Sweet,	Dudley,		James Jones.	
Ocean No. 1,	W. H. Sweet,	Dudley,		Dan Ryan.	
Ocean No. 2,	W. H. Sweet,	Dudley,		Hugh Rowland.	
Cambria No. 1,	James Denithorne,	Langdondale,		W. H. Blackburn.	
Cambria No. 3,	James Denithorne,	Langdondale,		Samuel Buckley.	
Urey No. 1,	Thomas Bellis,	Burnside,		Thomas Bellis.	
Urey No. 2,	Thomas Bellis,	Burnside,		James Bowers.	
Urey No. 3,	Thomas Bellis,	Burnside,		James Schola.	
Blands,	Fred. Bland,	Blandsburg,		William Templeton.	
Blain Run,	W. H. Helman,	Coalport,		Henry Washington.	
Bradley,	Thomas Bradley,	Gallitzin,		John Bradley.	
Benedict,	W. H. Reed,	Dudley,		Scott Reed.	
Burnside,	Thomas Bellis,	Burnside,		John Bong.	
Cato,	M. J. Kelly,	Snow Shoe,		L. Nugent.	

TABLE I—Continued.

Names of Collieries.	Name of Superintendent.	Postoffice Address.	Name of Assistant Superintendent.	Name of Inside Foreman.	Name of Outside Foreman.
Cunard,	R. H. Kay,	Six Mile Run,		James McIntyre.	
Cherry Run,	W. F. Holt,	Moshannon,		Samuel Mitchel.	
Dougherty,	John Douherty,	Altoona,		Human Speaker.	
Eldorado,	E. F. Spencer,	Mountaindale,		William Keller.	
Fisher,	E. Eicheberger,	Saxton,		John Griffith.	
Fricks,	Max Frick,	Blandsburg,		Joseph McCann.	
Great Bend,	W. S. Bell,	Bellwood,		John Cann.	
Harts,	Joseph Hart,	Munson,		Joseph Hart.	
Horton Run,				M. Blythe.	
Irvona,	Archie Bathgate,	Coalport,		George Alexander,	Anthony Lowman.
Kearney,	T. A. Jones,	Kearney,		William Williams,	R. H. Edmiston.
Kyler,	R. C. Fishburn,	Munson,		James Gray.	
Lemon,	J. L. Nicholson,	Gallitzin,		James Quinn,	P. Galligar.
Mountaindale,	Charles Lamb,	Glasgow,		Charles Lamb.	
O'Shanter,	P. McCauley,	O'Shanter,		P. McCauley.	
Oakland,	W. S. Hegarty,	Coalport,		Donald Craig.	
Penn,	W. J. Treversick,	Glen Campbell,		W. J. Trevesick.	
Penna.,	M. A. Prestor,	Coalport,	Barclay Preston,	John McCrovey.	
Sommerville,	John Sommerville,	Winburne,		Allen Sommerville.	
Snow Shoe,	M. Kelly,	Snow Shoe,		H. P. Kelly,	H. Z. Burly.
Turley,	G. W. Turley,	Mountaindale,		G. W. Turley.	

TABLE II—Gives the total number of tons of coal mined and tons of coke produced in each colliery, number of days worked, number of employes, number of persons killed and injured, number of kegs of powder, etc., used in the Tenth Bituminous District for the year ending December 31, 1899.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Altoona Coal and Coke Co.													
Delaney,	Cambria,	240,409	2,129	1,490	291,558	28,446	295	317	.....	2	1,500	500	30
Horse Shoe,	Blair,												
Clearfield Bit. Coal Corporation.													
Gazzam No. 1,	Clearfield,	74,082	229	1,300	75,611	.....	291	118	2	.....	940	40	8
Gazzam No. 2,	Clearfield,	12,931	.....	.....	12,931	.....	269	14	.....	.....	309	10	2
Grass Flat,	Clearfield,	176,929	500	963	178,332	39,854	288	205	.....	1	1,485	225	10
Knox Run,	Clearfield,	136,540	.....	172	136,712	3,566	284	185	.....	.....	1,035	200	8
Moravian,	Clearfield,	126,081	.....	76	126,157	242	285	170	.....	3	1,080	685	8
Pleasant Hill,	Clearfield,	122,953	.....	1,496	124,449	34	284	165	.....	.....	900	190	9
Total,		649,516	729	3,947	654,192	43,690	*283	857	2	4	5,749	1,350	45
Crescent Coal Mining Co.													
Crescent No. 1,	Bedford,	99,908	913	455	101,276	.....	261	152	.....	1	142	34	15
Crescent No. 2,	Bedford,	30,602	.....	44	30,646	.....	254	54	.....	.....	100	.....	6
Crescent No. 3,	Bedford,	15,817	.....	.....	15,817	.....	108	43	.....	.....	40	.....	3
Total,		146,327	913	499	147,739	.....	*208	249	.....	1	282	34	24
Colonial Iron Co.													
Durham No. 1,	Bedford,	69,436	722	1,871	72,029	.....	307	95	.....	.....	.....	.....	5
Durham No. 2,	Bedford,	9,300	97	.....	9,397	.....	70	78	.....	.....	.....	.....	5
Total,		78,736	819	1,871	81,426	.....	*189	173	.....	.....	.....	.....	10

TABLE II —Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—Tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Glen White Coal & Lumber Co.													
Glen White No. 1,	Blair,												
Glen White No. 2,	Blair,	47,669	1,109	301	68,633	11,521	262	89	.....	1	425	90	9
Glenwood Coal Co.													
Glenwood No. 1,	Indiana,												
Glenwood No. 2,	Indiana,	156,190	570	1,129	157,889	.....	209	196	.....	.....	757	.....	11
O. P. Jones Estate.													
Forest,	Clearfield,	76,195	200	.....	76,395	.....	242	98	1	.....	1,000	.....	8
Royal slope,	Clearfield,	41,089	1,200	.....	42,289	.....	159	95	.....	1	400	.....	6
Total,		117,284	1,400	.....	118,684	.....	*201	193	1	1	1,400	.....	14
Lambirth Mining Co.													
Harvey Slope,	Bedford,	38,566	476	184	39,226	.....	264	77	.....	.....	.....	.....	6
Warner,	Bedford,	13,406	.....	.....	13,406	.....	99	29	.....	.....	200	.....	4
Total,		51,972	476	184	52,632	.....	*182	106	.....	.....	200	.....	10
Lehigh Valley Coal Co.													
Sugar Camp No. 2,	Centre,	331,595	894	1,302	333,791	.....	207	421	1	2	128	2,900	26
Sugar Camp No. 3,	Centre,	92,148	212	160	92,520	.....	206	86	.....	.....	10	1,400	6
Total,		423,743	1,106	1,462	426,311	.....	*207	507	1	2	138	4,300	32
Philadelphia Coal and Coke Co.													
National No. 1,	Clearfield,												
National No. 2,	Clearfield,	35,973	1,260	.....	93,062	43,033	302	122	.....	3	250	.....	9

Peale, Peacock & Kerr.													
Bloomington No. 1,	Clearfield,	45,140	.....	500	45,640	.....	216	70	1	5	.....	.....	10
Bloomington No. 2,	Clearfield,	142,940	1,960	.....	144,900	.....	231	179	1	4	1,398	.....	24
Bloomington No. 3,	Clearfield,	7,760	.....	240	8,000	.....	85	25	.....	.....	.....	.....	6
Ogle,	Clearfield,	67,502	2,012	202	69,716	.....	275	110	1	.....	593	110	1
Total,		263,342	3,972	942	268,256	.....	*209	384	3	9	1,991	110	41
Rockhill Iron Co.													
Robertsdale slope,	Huntingdon,	164,300	5,075	2,515	171,890	3,750	485	265	.....	3	2,300	3,000	48
Woodvale shaft,	Huntingdon,												
W. H. Sweet.													
Carbon,	Huntingdon,	15,875	.....	.....	15,875	.....	270	31	.....	1	300	1,700	2
Huntingdon,	Huntingdon,	22,845	.....	.....	22,845	.....	270	44	.....	.....	200	800	4
Ocean No. 1,	Huntingdon,	32,721	.....	300	33,021	.....	270	58	.....	1	300	1,500	5
Ocean No. 2,	Huntingdon,	48,300	.....	.....	48,300	.....	270	73	.....	.....	400	2,000	7
Total,		119,741	.....	300	120,041	.....	*270	206	.....	2	1,200	6,000	18
United Collieries Co.													
Cambria No. 1,	Bedford,	19,243	.....	.....	19,243	.....	187	37	.....	.....	.....	.....	5
Cambria No. 3,	Bedford,	30,282	720	1,100	32,102	.....	201	87	.....	.....	.....	.....	9
Total,		49,525	720	1,100	51,345	.....	*194	124	.....	.....	.....	.....	14
Urey Ridge Coal Co.													
Urey No. 1,	Indiana,	49,532	.....	.....	49,532	.....	160	65	.....	.....	465	.....	8
Urey No. 2,	Indiana,	45,919	.....	.....	45,919	.....	184	53	.....	.....	432	.....	4
Urey No. 3,	Indiana,	39,456	.....	.....	39,456	.....	216	42	.....	.....	332	.....	3
Total,		134,907	.....	.....	134,907	.....	*186	160	.....	.....	1,229	.....	15
Fred. Bland.													
Blands,	Cambria	34,000	.....	282	34,282	.....	300	36	.....	.....	225	.....	4
Blain Run Coal Co.													
Blain Run,	Clearfield,	5,050	.....	250	5,300	.....	37	45	.....	.....	25	.....	3
Bradley & Meagher.													
Bradley,	Blair,	35,671	278	200	36,337	187	240	102	.....	.....	24	.....	20
W. W. Reed.													
Benedict,	Huntingdon,	20,000	.....	500	20,500	.....	268	45	.....	.....	200	50	6
Burnside Coal Co.													
Burnside,	Clearfield,	61,800	.....	600	62,400	.....	270	68	.....	.....	500	.....	6
Kelly & Nugent.													
Cato,	Centre,	5,175	.....	100	5,275	.....	195	19	.....	.....	75	.....	1
Morrisdale Coal Co.													
Cunard,	Bedford,	49,066	1,331	231	50,628	1,735	275	126	.....	.....	384	40	14

TABLE II—Continued.

Name of Colliery.	County.	Shipments of coal in tons by rail or otherwise.	Number of tons used for steam and heat at colliery.	Sold to local trade and used by employes—tons.	Total production of coal in tons.	Total production of coke in tons.	Number days worked.	Number persons employed.	Number fatal accidents.	Number non-fatal accidents.	Number kegs powder used.	Number pounds of dynamite used.	Number horses and mules.
Snow Shoe Mining Co.													
Cherry Run,	Centre,	29,000	.....	240	29,240	.....	260	45	.....	.....	.....	.....	5
Dougherty Coal Co.													
Dougherty,	Cambria,	8,965	.....	127	9,092	.....	182	16	.....	.....	48	20	2
E. F. Spencer.													
Eldorado,	Cambria,	3,732	75	.....	3,807	.....	176	25	.....	.....	40	.....	2
E. Eichelberger.													
Fisher,	Huntingdon,	14,585	.....	90	14,675	.....	278	26	.....	.....	135	600	3
Max Frick													
Fricks,	Cambria,	57,719	144	144	58,007	.....	269	66	.....	2	525	150	5
Bellwood Coal Co.													
Great Bend,	Cambria,	39,404	150	.....	39,554	.....	275	45	.....	.....	500	1,000	4
Thomas Hart.													
Harts,	Clearfield,	10,874	.....	386	11,260	.....	168	27	.....	.....	90	.....	2
Horton Run Coal Co.													
Horton Run,	Indiana,	30,925	400	200	31,525	.....	166	42	.....	.....	300	.....	3
Irvona Coal Co.													
Irvona,	Clearfield,	118,749	1,295	525	165,130	44,554	243	225	.....	3	870	.....	15
Joseph Thropp.													
Kearney,	Bedford,	3,120	900	720	82,676	49,901	268	176	1	.....	360	.....	15
W. G. Fishburn.													
Kyler,	Clearfield,	84,977	250	427	88,671	2,230	269	119	.....	2	845	600	10

Gallitzen Coal and Coke Co. Lemon,	Blair,	474	.....	.....	10,730	6,224	50	106	.....	.....	101	.....	14
W. J. Nicolls. Mountaindale,	Cambria,	2,998	276	159	29,103	17,191	278	63	.....	.....	40	150	2
Weaver & Ettla. O'Shanter,	Clearfield,	27,204	100	320	27,624	.....	226	48	.....	.....	240	.....	.....
S. Hegarty's Sons. Oakland,	Clearfield,	23,270	25	188	23,483	.....	258	46	.....	.....	188	.....	4
Rearkirt Bros. & Co. Penn,	Indiana,	53,732	.....	.....	53,732	.....	173	101	1	.....	366	.....	14
Preston Coal Mining Co. Penna.,	Clearfield,	1,820	.....	.....	1,820	.....	47	21	.....	1	8	10	1
Sommerville & Buchanan. Sommerville,	Clearfield,	94,994	768	1,003	96,765	.....	286	112	.....	2	.....	.....	6
Kelly Brothers. Snow Shoe,	Centre,	28,093	.....	210	28,303	.....	188	65	.....	.....	115	60	5
Turley & Co. Turley,	Cambria,	2,000	.....	.....	2,000	.....	74	15	.....	.....	.....	.....	1
Mines not under the mine law,		26,278	.....	.....	26,278	.....	.....	.....	.....	.....	.....	.....	.....
Grand total,		3,753,309	27,279	22,612	3,886,762	252,461	244	5,778	9	38	23,616	18,064	496

*Average.

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.		Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Steam.	Electric.								
Altoona Coal and Coke Co.																
Delaney, ...	Cambria, ...															
Horse Shoe, ...	Blair, ...	4	160	2	200	360	1	.....	1	100	.....	.....	.....	.....	1	70
Clearfield Bit. Coal Corporation.																
Gazzam No. 1, ...	Clearfield, ...	.....	.....	2	85	85	.....	.....	2	20	1	250	130	.....	.....	.....
Gazzam No. 2, ...	Clearfield, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Grass Flat, ...	Clearfield, ...	.....	.....	2	160	160	.....	.....	1	125	.....	.....	.....	.....	.....	100
Knox Run, ...	Clearfield, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Moravian, ...	Clearfield, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Pleasant Hill, ...	Clearfield, ...	.....	.....	1	20	20	.....	.....	1	.....	.....	.....	.....	.....	.....	.....
Total, ...	.....	.....	.....	5	265	265	.....	.....	4	145	1	250	130	.....	.....	100
Crescent Coal Mining Co.																
Crescent No. 1, ...	Bedford, ...	.....	.....	2	140	140	.....	.....	1	50	1	1,000	500	.....	.....	.....
Crescent No. 2, ...	Bedford, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Crescent No. 3, ...	Bedford, ...	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total, ...	.....	.....	.....	2	140	140	.....	.....	1	50	1	1,000	500	.....	.....	.....
Colonial Iron Co.																
Durham No. 1, ...	Bedford, ...	.....	.....	1	150	150	.....	.....	.....	.....	1	400	250	.....	.....	.....
Durham No. 2, ...	Bedford, ...	.....	.....	1	150	150	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Total, ...	.....	.....	.....	2	300	300	.....	.....	.....	.....	1	400	250	.....	.....	.....
Glen White Coal & Lumber Co.																
Glen White No. 1, ...	Blair, ...															
Glen White No. 2, ...	Blair, ...	2	100	1	40	140	.....	.....	.....	.....	1	800	400	.....	.....	75

Glenwood Coal Co.																	
Glenwood No. 1,	Indiana,			2	300	300		2	2	250				2			
Glenwood No. 2,	Indiana,																
O. P. Jones Estate.																	
Forest,	Clearfield,																
Royal slope,	Clearfield,			2	80	80			1	50		300	150				
Total,				2	80	80			1	50		300	150				
Lambirth Mining Co.																	
Harvey Slope,	Bedford,			1	80	80			1	50	1	300	230				
Warner,	Bedford,																
Total,				1	80	80			1	50	1	300	230				
Lehigh Valley Coal Co.																	
Sugar Camp No. 2,	Centre,			2			1		1		1	91	91				200
Sugar Camp No. 3,	Centre,																
Total,				2			1		1		1	91	91				200
Philadelphia Coal and Coke Co.																	
National No. 1,	Clearfield,																
National No. 2,	Clearfield,			1	60				1	25							100
Peale, Peacock & Kerr.																	
Bloomington No. 1,	Clearfield,								1	110							
Bloomington No. 2,	Clearfield,			3	400	400											
Bloomington No. 3,	Clearfield,																
Ogle,	Clearfield,			3	375	375		3	3	350				1	1		
Total,				6	775	775		3	4	460				1	1		
Rockhill Iron Co.																	
Robertsdale slope,	Huntingdon,																
Woodvale shaft	Huntingdon,	16	690						7	390	3	2,000	1,400		2		100
W. H. Sweet.																	
Carbon,	Huntingdon,																
Huntingdon,	Huntingdon,																
Ocean No. 1,	Huntingdon,																
Ocean No. 2,	Huntingdon,																
Total,																	
United Collieries Co.																	
Cambria No. 1,	Bedford,																
Cambria No. 3,	Bedford,			3	190	190			3	110	2	1,220	630	1			
Total,				3	190	190			3	110	2	1,220	630	1			

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TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.					Locomotives.		Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.	Total horse power.	Electric.	Electric.								
Urey Ridge Coal Co.																
Urey No. 1,	Indiana,															
Urey No. 2,	Indiana,															
Urey No. 3,	Indiana,															
Total,																
Fred. Bland.																
Blands,	Cambria,															
Blain Run Coal Co.																
Blain Run,	Clearfield,															
Bradley & Meagher.																
Bradley,	Blair,	2	50			50			1	30						7
W. W. Reed.																
Benedict,	Huntingdon,															
Burnside Coal Co.																
Burnside,	Clearfield,															
Kelly & Nugent.																
Cato,	Centre,															
Morrisdale Coal Co.																
Cunard,	Bedford,	2	140						3	110	3	475	150			18
Snow Shoe Mining Co.																
Cherry Run,	Centre,															

Dougherty Coal Co. Dougherty,	Cambria,															
E. F. Spencer. Eldorado,	Cambria,															
E. Eichelberger. Fisher,	Huntingdon,															
Max Frick. Fricks,	Cambria,															
Bellwood Coal Co. Great Bend,	Cambria,															
Thomas Hart. Harts,	Clearfield,															
Horton Run Coal Co. Horton Run,	Indiana,	1	70			70	1			70	1	200	120			
Irvona Coal Co. Irvona,	Clearfield,		3		195	195	1		1	50	1	48	24			80
Joseph Thropp. Kearney,	Bedford,			2	200	200		1	2	165	1	130	80	1		158
W. G. Fishburn. Kyler,	Clearfield,			1	20	20										50
Gallitzen Coal and Coke Co. Lemon,	Blair,							1						1		100
W. J. Nicolls. Mountaindale,	Cambria,			2	40	40			1	40						40
Weaver & Ettla. O'Shanter,	Clearfield,															
S. Hegarty's Sons. Oakland,	Clearfield,			1	50						1					
Rearkirt Bros. & Co. Penn,	Indiana,															
Preston Coal Mining Co. Penna.,	Clearfield,															
Sommerville & Buchanan. Sommerville,	Clearfield,			1	125	125		1	1	125	3	900	500	1		

TABLE II—Continued.

Name of Colliery.	County.	Number of Boilers.				Total horse power.	Locomotives.		Number steam engines of all classes.	Total horse power.	Number pumps delivering water to surface.	Capacity in gallons per minute.	Quantity delivered to surface per minute—gallons.	Number electric dynamos.	Number air compressors.	Number of coke ovens.
		Cylindrical.	Horse power.	Tubular.	Horse power.		Electric.	Electric.								
Kelly Brothers.																
Snow Shoe,	Centre,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Turley & Co.																
Turley,	Cambria,	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Mines not under the mine law,		...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Grand total,		27	1,213	36	3,060	3,330	4	8	35	2,220	21	8,114	4,755	7	3	1,191

TABLE III—Showing the number of each class of employes at each colliery in the Tenth Bituminous District, during the year 1899.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside Foreman or Mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Altoona Coal and Coke Co.																
Delaney, Horse Shoe,	1	.....	275	6	17	6	2	307	.....	3	4	1	2	.....	10	317
Clearfield Bit. Coal Corporation.																
Gazzam No. 1, Gazzam No. 2,	2	.....	98	10	6	2	6	124	.....	2	1	.....	2	3	8	132
Grass Flat,	1	.....	165	5	10	5	4	190	.....	2	2	.....	2	9	15	205
Knox Run,	1	.....	155	2	8	5	2	173	.....	2	.....	.....	1	9	12	185
Moravian,	1	.....	140	3	7	4	7	162	.....	1	.....	.....	1	6	8	170
Pleasant Hill,	1	.....	140	2	8	4	2	157	.....	1	.....	.....	1	6	8	165
Total,	6	.....	658	22	39	20	21	806	.....	8	3	.....	7	33	51	857
Crescent Coal Mining Co.																
Crescent No. 1,	1	.....	120	.....	12	6	3	142	.....	1	2	1	2	4	10	152
Crescent No. 2,	1	.....	40	2	6	1	.....	50	.....	1	.....	1	2	.....	4	54
Crescent No. 3,	1	.....	34	.....	3	1	.....	39	.....	1	.....	1	2	.....	4	43
Total,	3	.....	194	2	21	8	3	231	.....	3	2	3	6	4	18	249
Colonial Iron Co.																
Durham No. 1,	1	.....	73	.....	5	2	3	84	.....	2	2	1	.....	6	11	95
Durham No. 2,	1	.....	50	.....	3	.....	10	64	.....	2	2	.....	.....	10	14	78
Total,	2	.....	123	.....	8	2	13	148	.....	4	4	1	.....	16	25	173

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside Foreman or Mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total Inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Glen White Coal and Lumber Co.																
Glen White No. 1,	1	.....	64	.....	7	2	3	77	.....	1	3	.....	2	6	12	89
Glen White No. 2,																
Glenwood Coal Co.																
Glenwood No. 1,	2	.....	169	.....	8	5	2	186	.....	2	2	.....	2	4	10	196
Glenwood No. 2,																
O. P. Jones Estate.																
Forest,	1	.....	79	.....	3	1	10	94	1	1	.....	.....	2	.....	4	98
Royal Slope,	1	.....	72	.....	4	1	10	88	1	1	1	2	2	.....	7	95
Total,	2	.....	151	.....	7	2	20	182	2	2	1	2	4	.....	11	193
Lambirth Mining Co.																
Harvey Slope,	1	.....	60	2	6	1	1	71	1	1	1	.....	1	2	6	77
Warner,	1	.....	20	.....	3	1	.....	25	.....	1	.....	1	2	.....	4	29
Total,	2	.....	80	2	9	2	1	96	1	2	1	1	3	2	10	106
Lehigh Valley Coal Co.																
Sugar Camp No. 2,	2	.....	361	.....	11	5	20	399	.....	5	4	.....	3	10	22	421
Sugar Camp No. 3,	1	.....	76	.....	3	1	1	82	.....	.....	.....	.....	.....	4	4	86
Total,	3	.....	437	.....	14	6	21	481	.....	5	4	.....	3	14	26	507

Philadelphia Coal and Coke Co.																
National No. 1, ...	2	.....	70	3	5	3	4	87	2	1	1	2	1	28	35	122
National No. 2, ...																
Peale, Peacock & Kerr.																
Bloomington No. 1, ...	1	.....	55	2	5	1	.....	64	.....	1	.....	.....	1	4	6	70
Bloomington No. 2, ...	1	.....	150	.....	9	3	2	165	.....	2	.....	.....	1	11	14	179
Bloomington No. 3, ...	1	.....	19	.....	3	.....	1	24	.....	.....	.....	.....	.....	1	1	25
Ogle, ...	1	.....	87	.....	4	2	3	97	1	3	3	1	2	3	13	110
Total, ...	4	.....	311	2	21	6	6	350	1	6	3	1	4	19	34	384
Rockhill Iron Co.																
Robertsdale Slope, ...	1	.....	148	.....	16	4	7	176	.....	4	2	1	3	10	20	196
Woodvale Shaft, ...	1	.....	47	.....	5	.....	4	57	.....	3	6	1	.....	2	12	69
Total, ...	2	.....	195	.....	21	4	11	233	.....	7	8	2	3	12	32	265
W. H. Sweet.																
Carbon, ...	1	.....	26	.....	3	.....	.....	30	.....	1	.....	.....	.....	.....	1	31
Huntingdon, ...	1	.....	38	.....	4	.....	.....	43	.....	1	.....	.....	.....	.....	1	44
Ocean No. 1, ...	1	.....	52	.....	4	.....	.....	57	.....	1	.....	.....	.....	.....	1	58
Ocean No. 2, ...	1	.....	65	.....	6	.....	.....	72	.....	1	.....	.....	.....	.....	1	73
Total, ...	4	.....	181	.....	17	.....	.....	202	.....	4	.....	.....	.....	.....	4	206
United Collieries Co.																
Cambria No. 1, ...	1	.....	25	1	5	1	.....	33	.....	1	.....	.....	1	2	4	37
Cambria No. 3, ...	1	.....	65	.....	8	3	2	79	.....	2	3	1	2	.....	8	87
Total, ...	2	.....	90	1	13	4	2	112	.....	3	3	1	3	2	12	124
Urey Ridge Coal Co.																
Urey No. 1, ...	1	.....	54	.....	5	.....	1	61	.....	1	.....	.....	1	2	4	65
Urey No. 2, ...	1	.....	46	.....	2	.....	.....	49	.....	1	.....	.....	1	2	4	53
Urey No. 3, ...	1	.....	38	.....	2	.....	.....	41	.....	.....	.....	.....	1	.....	1	42
Total, ...	3	.....	138	.....	9	.....	1	151	.....	2	.....	.....	3	4	9	160
Fred. Bland.																
Blands, ...	1	.....	30	.....	3	1	.....	35	.....	.....	.....	.....	.....	1	1	36
Blain Run Coal Co.																
Blain Run, ...	1	.....	25	.....	3	.....	10	39	.....	1	.....	.....	1	4	6	45
Bradley & Meagher.																
Bradley, ...	1	.....	80	2	7	2	2	94	.....	1	1	.....	1	5	8	102
Chester D. Reed.																
Benedict, ...	1	.....	30	.....	4	1	3	39	1	1	.....	1	1	2	6	45
Burnside Coal Co.																
Burnside, ...	1	.....	60	1	4	.....	.....	66	.....	1	.....	.....	.....	1	2	68

TABLE III—Continued.

Names of Collieries.	Occupations of Persons Employed Inside.								Occupations of Persons Employed Outside.							Grand total inside and outside.
	Inside Foreman or Mine boss.	Fire bosses.	Miners.	Miners' laborers.	Drivers and runners.	Door boys and helpers.	All other employes.	Total inside.	Outside foreman.	Blacksmiths and carpenters.	Engineers and firemen.	Slate pickers.	Superintendents, book-keepers and clerks.	All other employes.	Total outside.	
Kelly & Nugent.																
Cato,	1	.....	15	.....	1	.....	.....	17	.....	.....	.....	.....	1	1	2	19
Morrisdale Coal Co.																
Cunard	1	.....	97	.....	11	2	4	115	.....	2	3	.....	2	4	11	126
Snow Shoe Mining Co.																
Cherry Run,	1	.....	38	.....	2	1	.....	42	.....	1	.....	.....	1	1	3	45
Dougherty Coal Co.																
Dougherty,	1	.....	13	.....	1	.....	.....	15	.....	.....	.....	.....	1	.....	1	16
E. F. Spencer.																
Eldorado,	1	.....	20	.....	2	.....	.....	23	.....	.....	.....	.....	2	.....	2	25
E. Eichelberger.																
Fisher,	1	.....	23	.....	2	.....	.....	26	.....	.....	.....	.....	.....	.....	.....	26
Max Frick.																
Fricks,	1	.....	57	.....	4	.....	1	63	.....	1	.....	1	.....	1	3	66
Bellwood Coal Co.																
Great Bend,	1	.....	30	4	4	.....	3	42	.....	1	.....	1	1	.....	3	45
Thomas Hart.																
Harts,	1	.....	23	.....	2	.....	.....	26	.....	.....	.....	1	.....	.....	1	27

Horton Run Coal Co.																
Horton Run,	1	.....	30	1	3	1	.....	36	.....	1	4	.....	1	.....	6	42
Irvona Coal Co.																
Irvona,	1	.....	160	3	12	5	4	185	1	2	5	2	2	28	40	225
Joseph Thropp.																
Kearney,	1	.....	101	2	10	3	.....	117	1	2	2	.....	2	52	59	176
W. G. Fishburn.																
Kyler,	1	.....	94	.....	5	1	5	106	1	1	.....	2	2	7	13	119
Gallitzin Coal and Coke Co.																
Lemon,	1	.....	60	.....	8	1	3	73	1	1	.....	.....	1	30	33	106
W. J. Nicolls,																
Mountaindale,	1	.....	45	.....	2	.....	1	49	1	.....	1	.....	1	11	14	63
Weaver & Ettla.																
O'Shanter,	1	.....	41	3	2	.....	.....	47	.....	.....	.....	.....	1	.....	1	48
S. Hegarty's Sons.																
Oakland,	1	.....	34	1	3	2	.....	41	1	1	1	1	1	.....	5	46
Reakirt Bros. & Co.																
Penn,	1	.....	84	1	8	1	.....	95	.....	1	.....	.....	1	4	6	101
Preston Coal Mining Co.																
Penna.,	1	.....	16	.....	1	.....	.....	18	1	1	.....	.....	1	.....	3	21
Sommerville & Buchanan.																
Sommerville,	1	.....	91	2	3	1	2	100	.....	2	2	1	2	5	12	112
Kelly Brothers.																
Snow Shoe,	1	.....	51	3	2	1	.....	58	1	3	.....	.....	1	2	7	65
Turley & Co.																
Turley,	1	.....	12	1	.....	.....	.....	14	.....	.....	.....	.....	1	.....	1	15
Grand total,	66	.....	4,536	61	326	93	148	5,230	15	77	58	24	70	304	548	5,778

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Altoona Coal and Coke Co.													
Delaney,	26	23	27	24	21	24	24	24	25	26	26	25	295
Horse Shoe,													
Clearfield Bit. Coal Corporation.													
Gazzam No. 1,	21.25	22.50	26.50	24.50	25.75	25.25	22.25	24.25	23.50	25	20.50	20	291
Gazzam No. 2,	24.5	23.5	27	25	25.8	25	23.4	26	24.8	15.4	24.6	23.2	269
Grass Flat,	24.4	23.6	27	25	24	21.3	22.9	25.4	18.9	23.6	23.3	21.8	288
Knox Run,	24.1	23	27	25	25	23.8	23.4	25.5	20.1	21.2	23.5	23.4	284
Moravian,	24.3	23.4	26.8	25.4	24	23.4	23.5	26.4	19.6	20.2	24.2	22.4	285
Pleasant Hill,													
Average,													283
Crescent Coal Mining Co.													
Crescent No. 1,	26	22.50	26.50	19.50	20	11	17	22.50	23	26	23.50	23.50	266
Crescent No. 2,	23	14	24	24	22	18	8	26	25	25	23	22	254
Crescent No. 3,				18	8				18	22	22	20	108
Average,													208
Colonial Iron Co.													
Durham No. 1,	26	24	27	25	26	26	24	27	25	26	26	25	307
Durham No. 2,										22	25	23	70
Average,													189

Glen White Coal and Lumber Co.													
Glen White No. 1,	25	18	24	21	21	22	23	23	22	20	21	22	262
Glen White No. 2,													
Glenwood Coal Co.													
Glenwood No. 1,	17.8	14.7	22.6	11.6	15.5	20.7	14.4	20.8	22	16.6	15.8	16.6	209
Glenwood No. 2,													
O. P. Jones Estate.													
Forest,	22.5	9.5	25	21	18	25	19	20	21	19	22	20	242
Royal Slope,	19	22	20	25	14	.....	.....	9	12	16	15	17	159
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	201
Lambirth Mining Co.													
Harvey Slope,	26	22	24	24	22	9	19	27	21	23	25	22	264
Warner,	15	14	.....	.....	.....	.....	.....	.....	16	15	19	20	99
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	182
Lehigh Valley Coal Co.													
Sugar Camp No. 2,	17	15	22	16	18	16	16	15	18	17	20	18	207
Sugar Camp No. 3,	16	15	21	17	17	16	15	15	17	17	19	19	206
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	207
Philadelphia Coal and Coke Co.													
National No. 1,	27	23	26	25	26	26	25	25	26	25	24	24	302
National No. 2,													
Peale, Peacock & Kerr.													
Bloomington No. 1,	23.5	19	25	22	25	23	21	20	19	17.5	16	15	246
Bloomington No. 2,	21	16	21	23	19	18	22	20	18	21	16	16	231
Bloomington No. 3,	25	6	16	22	20	21.5	.....	.....	.....	.....	.....	.....	85
Ogle,	20	18	26	24	25	26	24	19	23	24	25	21	275
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	209
Rockhill Iron Co.													
Robertsdale Slope,	26	24	27	23	18	18	20	25	21	23	18	24	243
Woodvale Shaft,	26	24	27	23	18	18	20	25	21	23	18	24	243
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	243
W. H. Sweet.													
Carbon,	22	20	26	24	22	20	19	24	23	25	22	23	270
Huntingdon,	22	20	26	24	22	20	19	24	23	25	22	23	270
Ocean No. 1,	22	20	26	24	22	20	19	24	23	25	22	23	270
Ocean No. 2,	22	20	26	24	22	20	19	24	23	25	22	23	270
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	270

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
United Collieries Co.													
Cambria No. 1,	26	21	26	18	15	11	5	.....	6	19	24	16	187
Cambria No. 3,	26	23	27	12	9	9	11	.....	9	26	25	24	201
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	194
Urey Ridge Coal Co.													
Urey No. 1,	11	13.75	17	21	14.25	10.75	10.50	14.25	10.75	11.75	14.25	10.75	160
Urey No. 2,	15.50	13	19.25	21	14.25	13.25	11.50	18.50	15.25	12	15.25	15	184
Urey No. 3,	13.75	20.25	23	18.75	16	21.25	13.75	15.25	20.75	14.25	18.50	17	216
Average,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	186
Fred. Bland.													
Blands,	25	22	23	24	26	25	25	26	26	26	26	26	300
Blain Run Coal Co.													
Blain Run,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	25	37
Bradley & Meagher.													
Bradley,	22	24	22	24	22	18	18	17	18	18	20	21	240
Chester D. Reed.													
Benedict,	22	19	27	23	23	24	19	20	22	23	23	23	268
Burnside Coal Co.													
Burnside,	26	24	26	23	25	22	22	24	16	14	24	24	270

Kelly & Nugent.													
Cato,	.....	.....	11	18	22	20	16	23	19	21	25	20	195
Morrisdale Coal Co.													
Cunard,	24	21	27	20	26	11	24	26	25	26	25	20	275
Snow Shoe Mining Co.													
Cherry Run,	23	22	24	21	22	19	20	17	22	23	23	24	260
Dougherty Coal Co.													
Dougherty,	23	13	16	15	10	8	10	11	15	21	24	16	182
E. F. Spencer.													
Eldorado,	.....	.....	.....	.....	.....	.....	15	22	21	23	22	23	176
E. Eichelberger.													
Fisher,	26	24	27	25	22	20	19	20	21	26	24	22	278
Max Frick.													
Fricks,	24	24.50	27	22.50	21	20	19.50	22.50	19.50	22.50	23	23	269
Bellwood Coal Co.													
Great Bend,	23.50	23	27	18	26	25.20	23	22	20	23	25	22	275
Thomas Hart.													
Harts,	26	19.75	26	24	21.75	24.50	22.50	4	.....	.....	.....	.....	168
Horton Run Coal Co.													
Horton Run,	.....	.....	.....	.....	4	10	10	20	13	11	18	20	106
Irvona Coal Co.													
Irvona,	24	22	24	24	23	23	20	17	19	15	14	18	243
Joseph Thropp.													
Kearney,	22	19.50	27	25	24	23	13	17.50	26	23	26	22	268
W. G. Fishburn.													
Kyler,	24	15	24	22	21	15	24	22	22	23	24	23	269
Gallitzin Coal and Coke Co.													
Lemon,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	25	25	50
W. J. Nicolls.													
Mountaindale,	26	21	27	25	26	26	25	27	24.6	22.9	23.8	24	278
Weaver & Ettla.													
O'Shanter,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	226
S. Hegarty's Sons.													
Oakland,	25	19	24	22	20	23	19	23	19	20	23	21	258
Reakirt Bros. & Co.													
Penn,	20.75	14.75	20.50	9.75	11.75	14	9.50	17	13	11.50	15.14	16	173

TABLE III—Continued.

Names of Collieries.	Number of Days Worked Each Month.												
	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Totals.
Preston Coal Mining Co.													
Penna.,	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	21	26	47
Sommerville & Buchanan.													
Sommerville,	25.25	23.25	23.75	23	22	25.50	23.50	26.50	20.25	25.50	23.75	22.50	286
Kelly Brothers.													
Snow Shoe,	.....	.....	1	15	15	22	18	24	21	23	24	25	188
Turley & Co.													
Turley,	.....	.....	.....	.....	.....	.....	.....	.....	.....	24	24	24	72
	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

TABLE IV—List of fatal accidents that occurred in and about the mines of the Tenth Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 25,	Jacob Sowansky, ...	Miner, ...	35	M.	1	3	Penn, ...	Indiana,.....	This man, in company with another miner, was at work in a back heading, and was engaged in taking a skip of coal off the rib, so the sights could be seen, and while lying down undermining, a piece of coal fell upon his head, breaking his neck. No one was to blame for this accident, as he could not well sprag up the coal, for it was only mined two feet deep and four feet in length.
30,	Andy Bartko, ...	Miner, ...	20	S.	....		Sugar Camp, ...	Centre,.....	In company with another miner he was turning a room off the heading and the place was driven only ten feet, and was ten feet in width, and while he was at work shoveling coal, a flag of roof rock fell upon him, killing him instantly. The roof at this point was poor, there being slips and clay partings, and as the place was so narrow the men thought it was perfectly safe for them to work in. They had been warned of the nature of the roof, and advised to put up a cross bar, but they thought it was all right.
Feb. 5,	Joe. Nowak, ...	Miner, ...	32	M.	1	1	Bloomington, ...	Clearfield,.....	While at work loading a car, and while on his knees shoveling, a large sandstone fell from between two slips upon him, killing him instantly. There was a very hard sandstone roof at this place, and it was hard to distinguish the slips, or breaks, in the roof, but these slips were right over where he was shoveling, and the rock fell without warning.

TABLE IV—Continued.

Date of accident.	Name of Person.	Occupation.	Age.	Married or single.	Number of widows.	Number of orphans.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
July 11.	John Slay, ...	Miner, ...	50	M.	1	4	Forest, ...	Clearfield,.....	He and a fellow miner had fired a shot in the bone coal, over the roadway, and only a portion of it had fallen, and they then both went under it and commenced mining, and had only worked a few minutes when a large piece of bone coal fell from between two slips upon them both. Slay was killed and his companion escaped, only the outer endge striking him. Props were set up to within six feet of the face, and it was from between the props and the face that the bone fell, but they made a mistake in not taking it down.
11.	John Hill, ...	Miner, ...	62	M.	1	9	Gazzam, ...	Clearfield,.....	Hill and his two sons were pulling out a room pillar, and they had mined a fall of coal almost four yards in length and nearly three feet in depth, and had fired a shot on the fast side. The shot had broken the coal down close to the rib, and the rest of the coal was still standing, with a loose end on each side of it, and Hill lay down under it to mine it deeper, when it fell upon him, crushing his head and killing him instantly. He was an old and experienced miner, and an old mine foreman, and in this case neglected to care for his own safety in not spragging the coal, or taking it down.

Sept.	20,	Oscar Belin,	Helper,	13	S.	....	....	Ogle,	Clearfield,	The boy was working with his father loading after a mining machine, and he had gone back from the face of the roof to the crosscut and had sat down only a few minutes, when a body of bone coal fell upon him with fatal result. In driving up rooms the bone coal is taken down to make height for mine cars, and it was projecting nearly three feet from the rib at the crosscut and had not been taken down flush with the rib. This piece was nearly ten yards in length, and there were no props set under it, so there was nothing to prevent it from falling. The miner was to blame in not having set props under the bone coal.
Nov.	11,	Walter Grant,	Miner,	26	M.	1	3	Bloomington,	Clearfield,	This man and his companion, Clay, had just commenced work on a heading stump, and had mined only about one foot in depth when a large piece of rock and the coal fell from a slip upon them both; Grant was killed and Clay severely injured about the body. When the heading was being driven, the roof rock was shot down to make height for mules and cars, and so this in a manner left a loose end to the slips in the rock, and as they undermined the coal the rock gave away from a slip with the above result. I considered it an unavoidable accident, as the slip could not be seen.
	25,	Ise Mays,	Miner,	50	M.	1	5	Gazzam,	Clearfield,	Mays and his son were engaged in pulling out heading stump, and while he was resting a moment while loading his car, a stone fell from a slip in the roof, killing him instantly. The place was well propped, and there was no squeeze on, and in my opinion it was an unavoidable accident, as the slip could not be seen, and Mays was a very careful and experienced miner, and had worked on pillars for a long time.
Dec.	21,	Harry Kline,	Miner,	27	M.	1	1	Kearney,	Bedford,	Kline and his brother were at work in a room in Kearney slope, and the miners in the room to the left of them fired a shot in the solid coal; the shot blew through the rib into Kline's room, and a piece of the flying coal struck Harry Kline on the head, and he never regained consciousness, dying in twenty minutes afterwards.

TABLE V—List of non-fatal accidents that occurred in and about the mines of the Tenth Bituminous District, for the year ending December 31, 1899.

Date of accident.	Name of Person.	Occupation.	Age	Married or Single.	Name of Colliery.	County.	Nature and Cause of Accident in Brief.
Jan. 7.	Joseph Beltran,	Miner,	45	M.	Delaney,	Cambria,	Severely crushed about the hips and lower part of body by fall of coal.
16.	Mike Mokash,	Miner,	40	M.	Kyler,	Clearfield,	Bruised about the shoulders and the head by fall of bone coal while mining.
22.	William Snedden,	Miner,	48	M.	Bloomington,	Clearfield,	Leg broken by mine car.
Feb 3.	Paul Scoviski,	Helper,	14	....	Bloomington,	Clearfield,	Small bone in leg fractured by fall of rock.
10.	Clarence Beers,	Helper,	15	....	Fricks,	Cambria,	Leg broken by fall of middle slate.
Mar 5.	Alfred Nelson,	Miner,	40	M.	Sommerville,	Clearfield,	Collar bone broken by fall of bone coal.
12.	David Yocum,	Driver,	22	S.	Bloomington,	Clearfield,	Leg broken by being caught between cars and rib.
24.	John W. McClain,	Driver,	34	M.	Woodvale Shaft,	Huntingdon,	Leg broken; caught between mine car and prop.
April 3.	George Pride,	Engineer,	27	S.	Irvona,	Clearfield,	Jaw broken; struck by a piece of scantling.
17.	John Dudsack,	Miner,	18	S	Sugar Camp,	Centre,	Nose broken and scalp wound by fall of bone coal.
May 3.	John Munguson,	Miner,	23	S	Bloomington,	Clearfield,	Leg broken by fall of rock.
8.	Port O'Shell,	Miner,	35	M.	Penna.,	Clearfield,	Small bone in foot broken by a fall of rock.
9.	Joseph Utzenberger,	Miner,	18	S	Ocean No. 1,	Huntingdon,	Bruised about the body; struck by a mine car.
10.	Thomas Murray,	Miner,	18	S	Bloomington,	Clearfield,	Nose broken and face crushed by fall of roof.
12.	Mike Pollak,	Miner,	23	S	Moravian,	Clearfield,	Bruised slightly; caught between mine car and rib.
June 3.	Charles Lamb,	Miner,	51	M	Irvona,	Clearfield,	Injured inwardly; caught by a fall of roof in heading.
12.	John Barr,	Helper,	14	....	Sommerville,	Clearfield,	Leg broken by mine car while trying to jump on motor trip.
28.	Harney Small,	Miner,	35	M	Irvona,	Clearfield,	Shoulders squeezed by a fall of coal.
28.	William W. Fleming,	Driver,	18	S	Moravian,	Clearfield,	Foot cut by being run over by mine car.

July	15,	Walter Ames,	Laborer,	16	S.	National No. 1,	Clearfield,	Left arm fractured and thumb torn off by coming in contact with belting of elevator.
	20,	John Walsh,	Driver,	15	....	Grass Flat,	Clearfield,	Leg squeezed between mine cars.
Aug.	2,	Andy Wakover,	Miner,	21	S.	Glen White,	Blair,	Burned on face, hands and neck; spark ignited cartridge.
	7,	William Lovell,	Driver,	26	M.	Woodvale Shaft,	Huntingdon,	Leg injured by being caught between car and rib.
	30,	James Puit,	Miner,	37	M.	Bloomington,	Clearfield,	Shoulder blade broken by a fall of rock.
	31,	Peter Cordett,	Miner,	40	M.	Robertsdale,	Huntingdon,	Burned on hands and body by blown out shot.
Sept.	8,	Adam Donsata,	Miner,	35	M.	National No. 2,	Clearfield,	Back squeezed by fall of rock while mining.
	8,	William Spangle,	Miner,	19	S.	National No. 2,	Clearfield,	Foot squeezed by fall of rock while mining.
	11,	Hoffman Stong,	Miner,	40	M.	Fricks,	Cambria,	Collar bone disolcated by fall of middle rock.
	14,	H. O. Fleck,	Miner,	45	M.	Carbon,	Huntingdon,	Foot injured by fall of coal.
	16,	Fred Wilkinson,	Driver,	23	M.	Kyler,	Clearfield,	Leg fractured by being caught between mine cars and side of heading.
	25,	Steve Tekula,	Miner,	22	S.	Moravian,	Clearfield,	Leg broken by fall of coal.
Oct.	28,	Mike Moner,	Rock blaster,	36	M.	Sugar Camp No. 2,	Centre,	Both hands injured by explosion of dynamite caps.
Nov.	11,	Benjamin Clay,	Miner,	36	M.	Bloomington,	Clearfield,	Arm broken and hip bruised by fall of rock.
	22,	James Fluck,	Miner,	42	S.	Crescent,	Bedford,	Cut on the head and over left eye by fall of roof.
Dec.	4,	Stan Griot,	Miner,	57	M.	Bloomington,	Clearfield,	Left leg broken by fall of coal.
	8,	James Rhoades,	Miner,	33	M.	Delaney,	Cambria,	Leg broken by fall of rock.
	9,	Peter Hart,	Trip rider,	26	S.	Royal,	Clearfield,	Lacerated scalp and wrist fractured. Head and shoulders came in contact with a cross bar while coming out on his trip.
	10,	Andrew Cozell,	Miner,	33	M.	Bloomington,	Clearfield,	Forehead crushed and scalp injured by fall of rock.

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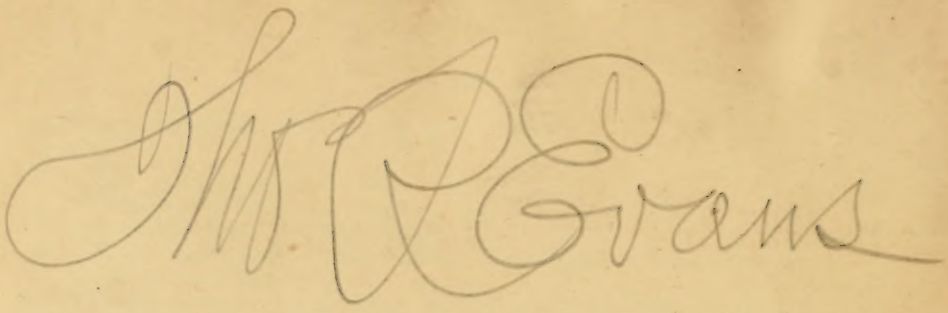

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